2: Adams E-4.5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

000

This is an authorized facsimile and was produced
by microfilm-xerography in 1973 by University Microfilms,
A Xerox Company, Ann Arbor, Michigan, U.S.A.

/introductory p. i/

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

INFORMATION TO USERS

This dissertation was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.
2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.
3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in "sectioning" the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again – beginning below the first row and continuing on until complete.
4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from "photographs" if essential to the understanding of the dissertation. Silver prints of "photographs" may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.

University Microfilms
300 North Zeeb Road
Ann Arbor, Michigan 48106
A Xerox Education Company

/introductory p. ii/

2: Adams E-4.5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

73-6271

000

ADAMS, Kathleen Joy, 1946-
THE BARAMA RIVER CARIBS OF GUYANA RESTUDIED:
FORTY YEARS OF CULTURAL ADAPTATION AND
POPULATION CHANGE.

Case Western Reserve University, Ph.D., 1972
Anthropology

University Microfilms, A XEROX Company, Ann Arbor, Michigan

© 1972

KATHLEEN JOY ADAMS

ALL RIGHTS RESERVED

/introductory p. iii/

000

THE BARAMA RIVER CARIBS OF GUYANA RESTUDIED:
FORTY YEARS OF CULTURAL ADAPTATION AND POPULATION CHANGE

by

KATHLEEN J. ADAMS

Submitted in partial fulfillment of the requirements
for the Degree of Doctor of Philosophy

/title page/

Department of Anthropology
CASE WESTERN RESERVE UNIVERSITY
August 1972

000

CASE WESTERN RESERVE UNIVERSITY

GRADUATE STUDIES

We hereby approve the thesis of

Kathleen Joy Adams

candidate for the Doctor of Philosophy

degree.

Signed: Leo A. Despres
(Chairman)
Shmuel Ben-Dor
Charles Callender
Marie Haug

Date July 12, 1972

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

THE BARAMA RIVER CARIBS OF GUYANA RESTUDIED: FORTY YEARS OF CULTURAL ADAPTATION AND POPULATION CHANGE

Abstract

by

KATHLEEN J. ADAMS

121 The Caribs of the Upper Barama River drainage basin in the
175 North West District of Guyana are restudied. About forty years ago,
[361] this population practiced a semi-nomadic adaptation to the rain
(657) forest. Now these Caribs benefit from national medical programs and
participate in regional markets for labor and local commodities.
121 The Upper Barama River Carib population is investigated for changes
177 over time in aspects of its behavioral patterns which have affected
its size, distribution, and organization relative to resources available in the natural and social environments. Regional influences are examined, and analyses are made of productive activities and patterns of sharing and direct exchange as this small, relatively isolated population has been integrated into a national political economy.

ACKNOWLEDGEMENTS

000 Many people have contributed to this study of the Upper Barama
River Caribs. I would like to thank my dissertation advisor,
Dr. Leo A. Despres, who initially suggested this study and from
whose discerning insight and criticisms it has greatly benefited.
[122] Also, I would like to thank Mr. Cecil McA. Ashley, Chief Interior
Development Officer, for granting me permission to enter Guyana's
interior. Special mention is due for Mr. Wesley A. Baird, the
Project Officer at Baramita Air Strip, without whose interest and
[127] concern this study could not have been completed. Mr. Basil Mohan,
Malaria Eradication Officer for the Upper Barama area, allowed me
122 to use census reports he had collected. While I lived at Baramita
Air Strip and conducted research in many formal and informal ways,
the Carib people extended me tolerance and many hospitalities.
128 During the period of analysis and writing, helpful comments were
offered by Dr. Charles Callender, Dr. Shmuel Ben-Dor, and Dr. Marie
Haug. Finally, I would like to thank my father, Col. Bert Adams,
for his continued support of my projects. Of course, I alone am
responsible for the interpretations presented here.

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

TABLE OF CONTENTS

5
000
CHAPTER I. INTRODUCTION 1

CHAPTER II. HISTORY OF REGIONAL CONTACTS AND SUBSISTENCE RESOURCES 6

CHAPTER III. SETTLEMENT PATTERN AND POPULATION SIZE 36

CHAPTER IV. MARKET OPPORTUNITIES: REGIONAL NETWORKS OF EXCHANGE 76

CHAPTER V. SOCIAL ORGANIZATION FOR SUBSISTENCE AND EMPLOYMENT 98

CHAPTER VI. CONCLUSIONS 142

REFERENCES CITED 151

LIST OF ILLUSTRATIONS

Figure Page

000

1. Guyana 7
2. The Barama River 8
3. Structure of Governmental Employees 31
4. Proposed Amerindian District in the Upper Barama River Area 33
5. Offspring of John Miller among the Current Population 37
6. Map of Settlements, 1932-33 39
7. Dispersion of Settlements along River Corridor, 1932-33 42
8. Map of Settlements, 1969 44
9. Partial Centralization of Settlements Around Mine, 1969 47
10. Map of Settlements, 1970-71 48
11. Completed Centralization of Settlements Around Baramita Air Strip, 1970-71 51
12. Kinship Relationships and Cooperative Boundaries among the Carib Men Residing near In Time and at Big Creek, 1969 107
13. Sketch Map of Baramita Air Strip Settlement 113
14. Kinship System, 1932-33. Terms of Address and Reference, Male Speaking 124
15. Kinship System, 1932-33. Terms of Address and Reference, Female Speaking 125
16. Kinship System, 1970-71. Terms of Address and Reference, Male Speaking 126

Figure Page

000 17. Kinship System, 1970-71. Terms of Address and Reference, Female Speaking 127

LIST OF TABLES

Table Page

000

1. Cultigens 12

2. Forest Floral Foods 14

3. Forest Faunal Foods 15

4. Population of Settlements, 1969 45

5. Population of Settlements, 1970-71 49

6. Age Structure and Sex Composition of the Carib Inhabitants in the Upper Barama River Drainage Basin Inclusive of and Above Kokerite, 1960 59

7. Age Structure and Sex Composition for Upper Barama River Carib Population, 1971 62

8. Age Structure and Sex Composition of Baramita Air Strip Population, 1971 63

9. Age Structure and Sex Composition for Satellite Settlements Population, 1971 64

10. Reproductive Histories of the Carib Women at Baramita Air Strip 67

11. Number of Children Ever Born to Women, 1960 70

12. Residence and Kinship and Work Relationships Among Miners, 1969 106

13. Kinship Terms for Address and Reference, Male Speaking 128

14. Kinship Terms for Address and Reference, Female Speaking 129

I

INTRODUCTION

114 The Carib Amerindians of the Guyanas have been variously studied. The older reports by Roth (1918, 1924) emphasize material culture and mythology. The data available in the Handbook of South American Indians (Rouse 1948:547-565) are generalized and pertain to the cultural patterns of the Island Carib. Taylor (1938, 1946, 1953) and Banks (1956) have contributed to the contemporary ethnography of the Island Carib. As a precedent in Carib studies in the Guyanas, Gillin presents an ethnographic survey of a specific group, the Barama River Caribs (1936). More recent research adds a problem orientation to this specific focus. Schwerin (1966) and Kloos (1971) consider the manner in which national interests have affected local Carib groups. Schwerin reports on Carib villages affected by the oil and steel industries in Venezuela; Kloos, on Carib villages affected by a regional market for fish in Surinam.

121
114
[101] This study is formulated in reference to these previous ones. The concern here is also a specific group, the Caribs of the Upper Barama River in the North West District of Guyana. These are essentially the same Caribs studied by Gillin forty years ago. The general problem addressed is also similar to the previous ones. The
*[177] local impact of regional influences is considered. However, Schwerin and Kloos present synchronic analyses. As Gillin did not disguise

121 informants or locations, another dimension is added here. Individuals
114 124 can be identified and the establishment of trans-generational
continuity is possible.

121 Two areas of theoretical concern particularly lend themselves to
*177 investigation under the fortuitous circumstances of being able to
[161] trace changes occurring over time among a specific group. The first
is cultural change: the second, human population control mechanisms.

175 In regard to cultural change, until forty years ago the Caribs
*177 of the Upper Barama River were adapting to the equatorial rain
182 forest with essentially a lithic technology. They combined hunting,
[22] fishing, and collecting with a semi-nomadic form of horticulture.
[241] Currently, the majority of these Caribs are settled at a community
*177 known as Baramita Air Strip. They engage in wage employment, make
[465] use of regional markets for local products, participate in agricultural
[438] development programs, and benefit from national medical
[242] programs. From a position of relative isolation in the rain forest,
[657] this group has been increasingly encapsulated in the national
[161] political economy. Attending this development has been changes in
their population size and composition as well as internal organization.
These changes are a major focus of the present study.

121 In pursuing the analysis of these changes, cultural materialism is relied upon as the most economical mode of explanation. Among others, Harris (1968) has proposed that techno-environmental determinants can serve in a comparative approach to cultural adaptation. One example of this approach is Murphy and Steward's comparison of the Mundurucu of Brazil and the Northeastern

121 Algonkians of Canada (1956). The Schwerin report (1966) and
[114] particularly Kloos' (1971) analysis also employ a frame of reference
that gives emphasis to techno-environmental factors that are generative of cultural adaptation and change.

121 Accordingly, it is proposed that the organizational strategies of
*177 human populations conform to determinants of the exploitative technologies and the resources available. This hypothesis is used to inquire into cultural change among the Caribs of the Upper Barama
101 River. The Carib population identified as the unit for study is a
[161] small group, currently numbering about 550. They alone inhabit the Upper Barama River drainage basin. The boundaries of the local population are identified operationally by the cultural practices which maintain a shared set of material exchanges (Rappaport 1969:
101 184). However, these cultural practices have changed as the
*177 materials or resources available to be exchanged have been altered. Over time, external resources have been added to those locally available. What has been maintained is the common participation of this population in these exchanges. Changes affecting the resources available to the Upper Barama River Caribs will be more fully explored in Chapter II.

121 A second problem with which this study is concerned has to do
182 with certain aspects of human population ecology. Alland (1967) proposes that population adaptation is situationally specific. Accordingly, human adaptation measured by population size can be evaluated in two instances: (1) when two competitive populations occupy the same environment; and (2) when one population occupies

121 a particular environment over a prolonged period of time. This
182 study uses the second option.

However, Alland also proposes that trans-generational population studies be conducted with a systemic reference. The manner in which population size is changed and acts to transform the system of which it is a variable is to be investigated. Previous ecological studies have been conducted on single human populations. Such studies include those by Steward (1938), Vayda (1961), Leeds (1965), and Rappaport (1968). The problems focused upon are relationships among environment, technology, population size, and cultural patterns. These relationships also are considered here. However, this study substantially from these previous ones. First, this is a trans-generational study; because of the data available, changing population adaptation can be evaluated. Also, the systemic assumptions which these earlier studies rely upon cannot be made here. Among the Caribs of the Upper Barama River area, the rapidly changing impact of regional resources does not allow the postulation of an equilibrium system operating within identifiable parameters. Rather, within the limits of the phenomena, the concern here is more simple and direct. The responses of cultural patterns and population size to independently occurring, external resources are explored. The nature of these correlations, rather than their causes, is the object of this inquiry.

121 With regard to population size, it has been noted (Birdsell 1953,
182 Stott 1962, Alland 1970) that human populations adapting to local
161 environments with a lithic technology disclose a relatively low

121 population density. For the most part, these ecological studies
161 consider population size a variable in a closed system. Thus, low
[182] density is attained by behavioral patterns which regulate population
size relative to local resources. Cultural practices which control
conception or carry a high mortality hazard for an age segment of
the population intervene to limit the population size below the
limits of the available resources. In the case of the Upper Barama
River Caribs, changes in population size will be investigated in
relation to a succession of external resources and can be easily
identified.

114 Data for this study were collected from several sources.
127 Gillin's report on the same group, The Barama River Caribs of British
Guiana (1936) has already been mentioned. In addition, archival data
of a general nature and census reports were collected in Georgetown.
Finally, field work was conducted on the population in question over
a nine-month period in 1970-71.

121 In sum, this inquiry is a case study of cultural change and
*177 attendant shifts in aspects of the human population ecology. The
161 focus is directed to adaptations made by the Upper Barama River
[182] Carib population with their entrance into a regional political
economy. The nexus between the nature and extent of external
resources available in the Upper Barama River drainage basin and
changes in the organization and size of the local Carib population
will be explored in the following chapters.

II

HISTORY OF REGIONAL CONTACTS AND SUBSISTENCE RESOURCES

131 The headwaters of the Barama River are on the eastern slope of
133 the low divide which marks the Venezuelan frontier. The Barama
River, fed by many tributaries, meanders through the rain forest in
a generally easterly direction for about 100 miles until it flows
into the Waini River. The Great Falls at Towakaima divides the
Barama River drainage basin into an upper and a lower section. This
report concerns the upper section. Figure 1 is a map of the Barama
River in relation to the rest of Guyana. Figure 2 is a more detailed
map of the Barama River area.

132 The physical environment of the Upper Barama area remains as
[114] Gillin describes it (1936:xii-xiii). Rainfall fluctuates from year
to year, usually accumulating 110 to 120 inches annually (King 1968:
137 148). The drainage basin of the Upper Barama River supports a forest
[133] vegetation with a highest canopy of about 100 feet. The flora is
mixed, and species occur in all possible combinations. The tall (35M)
mora tree is perhaps the most impressive species (King 1968:22).
132 There is very little terrain that is not inundated by seasonal rain.
133 Bishop reports no high ground suitable for an air strip between
Towakaima and the mouth of the Baramita tributary (1941:6).

133 From Baramita mouth to Towakaima, the basin is a wide, flat
plain with a gentle gradient (Bishop 1941:8). The Baramita flows

[TEXT CONTINUED ON PAGE 9]

102
131
133

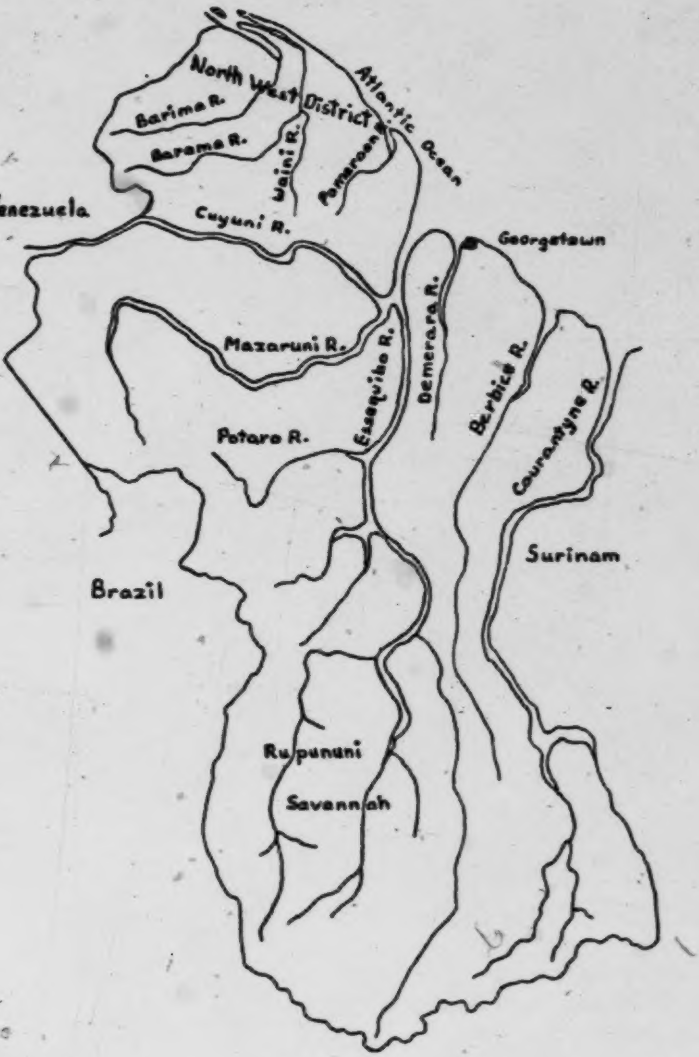

North West District
Atlantic Ocean
Barima R.
Barama R.
Waini R.
Pomeroon
Venezuela
Cuyuni R.
Georgetown
Mazaruni R.
Essequibo R.
Demerara R.
Berbice R.
Courantyne R.
Potaro R.
Surinam
Brazil
Rupununi
Savannah

Figure 1. Guyana.

102
131
133
361

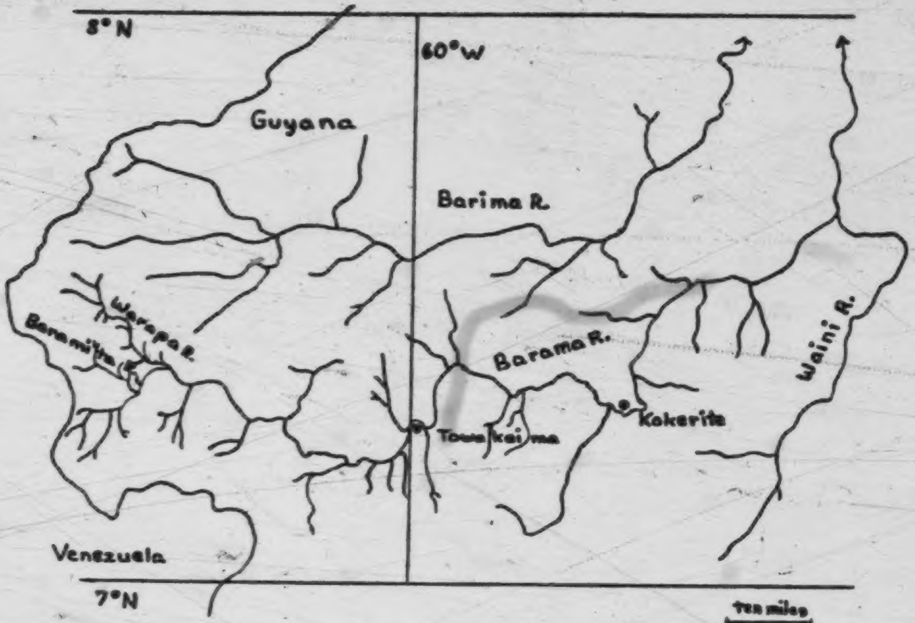

8° N
60° W
Guyana
Barima R.
Waropa R.
Baramita R.
Barama R.
Waini R.
Towakaima
Kokerite
Venezuela
7°N
ten miles

Figure 2. The Barama River.

133 into the Barama at about 450-500 feet above sea-level and has a diminishing gradient of a little over two feet a mile to the top of the Great Falls which drop eighty to eighty-five feet in a distance of about half a mile (Bishop 1941:7). The plain is interrupted by the outcropping of the gneiss-granite bedrock to form the Frasier Falls. About thirty-five miles above Towakaima, the Frasier series of rapids are about two miles long and present a very small total drop (Bishop 1941:4). The Upper Barama River is fed predominantly by tributaries on its right (south) bank. These tributaries follow the grain of the gneiss-granite bedrock and are mainly blackwater creeks which have a low potential for human exploitation. Such creeks are dark brown in color due to oxygen deprivation caused by decaying vegetable matter which also releases carbonic and humic acids (Meggers 1971:12).

13
182 Thus, there are three local micro-environments which yield biotic resources for human use. These are the river system, the naturally
241 occurring rain forest, and the man-made fields of cultigens. From these, floral and faunal resources are exploited.

Floral Resources

824 Local vegetable foods are those that occur in the forest and those
241 that are cultivated. However, there is no clear line dividing the two. The slash-and-burn horticulture by which vegetable foods are obtained is a modification of the rain forest. The cultigens are integrated into the forest in a way that they temporarily replace its floral community (Geertz 1963:15-28; Meggers 1971:19-21). From the

824 direct plant-to-plant cycling characteristic of the rain forest
241 floral community, energy is diverted for human consumption. The
diverse floral species are replaced with species selected to yield
food sources. Fields are prepared and maintained in keeping with
this use.

242 The soil is selected with regard to its role as a support for the
241 plants. A preferred site is a hillside. The gradient allows for
drainage. Also, a mixture of sand and clay will deter the water
retention which would rot root crops in predominantly clayey soil.
The clay component of this mixed soil protects the seeds and young
plants from the full impact of heat from direct sunlight. Only a
small field, about one acre, is usually cut at one time. Field
shapes tend to be circular. Tall trees are left on the periphery
to allow partial shade on the seeds and young plants.

241 The cutting is done to allow burning just before the rainy
[221] seasons that occur from November to January and from May to July.
[132] Planting follows burning. Previously, fire and stone-edged imple-
241 412 ments alone were used. However, iron-edged tools are now common in
[372] the Upper Barama area. Digging sticks for planting seeds remain in
*[177] use.

241 The different cultigens are intermingled, making use of micro-
environmental conditions. For example, sugar cane plants may be
located to take advantage of a few square feet along a creek bed.
Pineapples may be placed in an ash line. Young tobacco plants may
be located to be partially shaded by a stump until mature enough to
tolerate the sun.

241 To stagger the harvest, planting occurs over a period of time. However, once planted a field is rarely tended. Trips are made only to harvest foods as they are needed. As grasses choke the cultigens, a new field is cut. This happens about every two or three years.

241
137
*177 Over time, new additions have been made to this intermixture of species in the fields. These have come from several sources. Table 1 includes a list of the plants Gillin found growing in fields and by house sites in 1932-33. Of these, banana, plantain, yam, eddo, sugar cane, and citrus fruits were introduced to the New World by Europeans (Gillin 1948:825). Obviously, the Barama River Caribs do not recognize these origins. In 1970-71, there were many additions to Gillin's list. The ones which have been introduced from Georgetown are recorded separately in Table 1.

241
824 Also, in 1970-71, naturally occurring forest species were found in the cultivated fields. As the cultigen community is a duplication of the forest flora community, this reflects simply a change of location convenient to the human consumer. Thus, the boundary is merged between the cultigen community and the naturally occurring floral community. All local vegetable food sources are available from energy captured from the cycling of energy within the rain forest flora community, or a duplication of it.

241
*177
654 This integration of food production within the extant biotic community has only recently been altered. Fields convenient to locations of outside resources have been weeded and replanted for up to ten years. The new agricultural methods introduced by the government emphasize the single cash crop grown on a larger, exposed

[TEXT CONTINUED ON PAGE 13]

TABLE 1

CULTIGENS

241
137
*177

1932-33

manioc (Manihot utilissima)
plantains of two varieties
bananas of ten varieties
pineapple
three types of yams
tanya
eddo
sugar cane
two types of squash
red and white maize
lime
papaya
kraua grass
five varieties of pepper
four types of calabash bushes
cotton tree

(Gillin 1936:14-21).

1970-71 Additions

sweet manioc
watermelon
coconut
coffee
pumpkin
potato
sweet potato
rice
dashin
okra
sapodillo
calalu
tomato
koraila
medi
pigeon pea
peanut
black-eyed pea
red beans
guava
sour sop
breadnut
grapefruit
orange
mango
tangerine
onion
bora bean
gourd
pokchoy
mustard
thyme
lemon grass
sugar apple
cashew
avocado

241 field. Individuals have cut extensive fields to support their
*177 competition for the office of Amerindian captain. The impact of these
654 recent departures marked by the increased escape of energy from the
[622] local forest ecosystem as well as the deterioration of the exposed soil through laterialization at some point will impose limiting factors on the agricultural development of the area.

222 The forest flora which is gathered for food and other uses is to
824 some extent defined by individual knowledge. The identification as
262 well as the preparation are knowledge held by a limited number of
[463] people. For some fruits, nuts, and roots no commonly known name exists in the Carib language. This follows from the nature of the food quest. An individual is constantly searching out these vegetable foods during the course of his daily activities. Consequently, the list of forest flora foods must remain partial. Those recorded by Gillin and additions made by 1970-71 field work are presented in Table 2.

Faunal Resources

22 The faunal resources from the forest are recorded in Table 3.
262 Those reported by Gillin are presented first, then the current additions. As the 1970-71 list was collected in the air strip vicinity, the additions reflect a more careful scouring of the available foods as a result of a heavier concentration of population in one location. On an individual basis, taboos against eating monkey and tiger (Gillin 1936:10) have been abandoned. Also, this list cannot encompass the many sporadic and minute sources. A person

[TEXT CONTINUED ON PAGE 16]

TABLE 2

FOREST FLORAL FOODS

222
262
137

1932-33

plums
Waiti, three varieties of fruit in pod-like beans (*Waikey*, *Iga splendens* - present author's note)
Asipoko, round reddish fruit
Arawiya, a fruit
mora and greenheart seeds (*Dimorphandra mora*, *Nectandra rodioei Hooker*)
Ballimani seeds
cashew nuts (*Anacardium* sp.)
fruit of the Kokerite and Ite palms (*Maximiliana regia*, *Mauritia flexuosa*)
the "cabbages" or fresh shoots of several palms
Akoyuru seeds (*Astrocaryum tucuma*)
arrow root (*Maranta indica*, *Miramosissima*)
Brazil nut (*Caryocar tuberculosa*) (Gillin 1936:21-22).

1970-71 Additions

locust seeds (*Hymenae acourbaril*)
monkey pot (*Lecythis davisii*)
pimpler pear
Atupemu, fine red seed
Apotari, seed
Toro, nut
Semusemu, fruit
Calumedi, black seed
Turu, palm leaves for tea
Cawawi, a nut from a rope

TABLE 3

FOREST FAUNAL FOODS

22
262
136

1932-33

accouri (*Dasyprocta aguti*)
labba (*Coelogenys*)
armadillo
ant bear (*Myrmecopaga*)
bush hog (*Dicotyles labiatus*, *Dictotyles torquatus*)
deer of several varieties
turtles of several varieties and their eggs
manati or sea cow
river and land crabs
otters or water dogs (?*Pterura Sambachii*)
bush cow (*Tapir Americanus*)
wild honey
birds
  Powis (*Crax* sp.)
  Hamm
  Dukwaru or *Djokoro*
  Wicissi ducks
  cock of the rock (*Rupocola elegans*)
  bird eggs
rats
Tchiri worms and *Komburu* worms
kushie ants
Muro frog, frog eggs
sting ray and snails of two varieties (Gillin 1936:9-10).

1970-71 Additions

kibihi
saki winki monkey
howler monkey (*Aloutta seniculus*)
lizzards
crocodile
tigers - usually the small, red one (*Relis concolor*)
two-toed sloth (*Chloepus*)
three-toed sloth (*Bradypus*)
all birds

22 walking through the forest is always on the lookout for casual
262 protein. The smallest bird egg, an embryonic bird, or what have you,
are saved and consumed.

224 The more intensive food quest for the larger animals is aided by
411 the introduction of rifles. A few dilapidated shotguns were in use
*177 by Upper Barama River Caribs in 1932-33 (Gillin 1936:8). Currently,
only a limited number of men own rifles and ammunition is not always
available. As a consequence, the local technology of hunting,
including bow and arrows and traps as described by Gillin (1936:3-9),
is maintained.

226 The fish poisons described by Gillin are also in use (1936:11).
137 Rather than the haiari root, the kunami leaves, picked from plants in
the fields, are more frequently used around the air strip, where the
harvesting of fish has also changed. After repeated poisoning of the
nearby streams, only a handful of small fish, three inches and under,
are collected in this manner.

231 With regard to domesticated fauna, there exists the same lack of
a specific boundary which characterizes the floral resources.
[262] Chickens are clearly domesticated. Currently, they and their eggs
are eaten. This is a change from an ornamental use reported by
Gillin (1936:45). At one time, a few pigs were raised in the area
around the air strip. Scrawny dogs who must scavenge for themselves
are kept for hunting. Also, a variety of birds and animals, including the kibihi, armadillo, labba, and bush hog, are captured when
[262] infants and kept as pets until they are mature. Then they are eaten.
Finally, a honey bee nest may be moved to a location convenient to
future use.

000 future use.

*177 As is evident from these data, the dependence on local biotic
182 resources has not remained constant. For the most part, the
introduction of iron technology, guns, and new cultigens has not
greatly changed the patterns of exploitation of biotic resources.
However, cultural changes brought about by the local availability of
regional resources have had consequences in the degree to which the
forest flora and fauna are exploited as well as the extent of the
manipulation of cultigen communities. The history of these external
resources may be summarized as follows.

361 Regional Contacts and External Resources

*177 The scattered Carib settlements reported by Gillin (1936) along
the length of the Upper Barama River have been abandoned. Amerindians
have been attracted by enclaves of introduced economies where new
[657] resources are available. In the Upper Barama River area, gold mining
activities and later a government settlement project have involved
the local population. Also, Caribs have migrated out of the Upper
166 Barama River drainage basin. Groups of Amerindians have gone to
Matthew's Ridge, others to the Cuyuni River.[1]

*177 More specifically, this study concerns the succession of regional
121 influences and the resultant human adaptations in the Upper Barama
River area. These external resources which have affected the local
population size and social organization have reached the Upper Barama
[657] River Caribs through two channels. Some have come as public services
000 available to Amerindians through various governmental agents. Other

Other

*177 167 resources have been introduced through economic channels. Over time, outsiders have been attracted into the area. Men have come to seek gold, missionaries to save souls, and currently, government programs have been introduced to develop Guyanese citizens. Each of these lenses of influence has served to introduce new resources to the local population, linking the Upper Barama area with regional transportation and communication systems and regional economic markets.

Early Gold Activities

175 *177 [135] At the end of the Nineteenth Century, gold was discovered in the North West District. Prospectors, or porknockers as they are locally called, came to seek their fortune in the bush. Principally, these were Afro-Guyanese men recruited from peasant villages along the coast (Smith 1969). Alluvial gold has been worked on the Barama and its tributaries at least since 1896 (Bishop 1941). From 1898 to 1912, the height of the early mining activities, the total gold production from the Barama area amounted to 99,169 ounces (Bishop 1941:20). This production was not exclusively from the Barama River drainage. Access to placer deposits on the Cuyuni River was gained from the Upper Barama which is more navigable than the Cuyuni.

There is no record of the number of men involved in these gold activities. Porknockers often came as partners in groups of two or three. They would work for a number of months and then return to Georgetown. Bishop estimates that in 1937-38 there were about 500 men working gold in the entire Barama River drainage basin. However, 175 *177 most of these men were located on the Lower Barama below Towakaima. Also, by this time gold production had fallen off. Only 18,094 ounces are reported for the period 1912 to 1935 (Bishop 1941:20).

Although the numbers of gold seekers that came to the Upper Barama cannot be known, the changes they promoted are apparent. Over time, the reappearance of these prospectors led to the establishment of interdependencies between gold seekers and Amerindians. 175 *177 439 In their effort to accommodate themselves to bush living, porknockers bought or traded for provisions and labor, and fathered children with Amerindian women. In addition to these rather dispersed, situational relationships with local Amerindians, porknockers also interacted with middlemen who established shops in the area. The porknocking activities provided a potential market into which the middlemen moved to buy gold and sell provisions.

Accordingly, transportation was extended to link the Upper Barama area to other outposts in the North West District as well as to Georgetown. Gillin reports (1936:107) that for about a year around 1910, the firm of Farnum and Smyth had a shop on the Anamu, a tributary of the Upper Barama. This shop was supplied by a tent boat hauled over the Great Falls by rollers, rope, and tackle. Also, by 1930, Chee-a-fat, a Chinese businessman, had established a shop below the falls at Towakaima. Sproston's launch made trips to Towakaima to serve this shop. Sometime before 1937, I. G. Ribeiro opened a shop on the opposite bank (Bishop 1941:4). Ribeiro owned his own boats to connect this shop to his other shops lower on the Barama. Similarly, Chee-a-fat's shop was an outpost of his central location at Aranka on the Lower Barama.

000 at Aranka on the Lower Barama.

*177 All during this early period of gold activities, the river system
175 predominated as the route of transportation and communication. To
[487] move down the river was to go toward greater penetration of outside
influences. Conversely, the Great Falls at Towakaima remained the
133 gateway to the Upper Barama. However, the Upper Barama is often
487 unnavigable. The water height fluctuates greatly with seasonal
rainfall. The low water level exposes numerous fallen trees and
*177 impedes or prohibits river travel. Thus, the bush trails that follow
175 along the river course were as important for transportation as the
487 river itself.

There also existed bush trails which ran overland between the
Barama River and the Cuyuni River to the south, and the Barima River
*177 to the north. During the peak of early gold activities, a government
175 trail connected Towakaima, located on the Barama River, and Arakaka,
653 located on the Barima River. This trail was about twenty-nine miles
487 long, graveled and ditched for use by mule and cart traffic. However,
by 1932, this trail had fallen out of use (Gillin 1936:107).

*177 Clearly, the river system was the lodestar of direction used by
175 the early gold seekers. Also, with river travel and bush trails,
[487] internal communication and transportation links within this region of
the North West District were more developed than links to Georgetown.
Later, air travel eclipsed the river as the main artery of communication and transportation. The most immediate links outside the
Upper Barama area became those to Georgetown via Timehri Airport.
[439] The nature of the material exchanges which flowed along regional
networks also changed.

OOO networks also changed.

Mining Companies

*177
175

A second phase of gold activities was marked by mining companies and the establishment of camps of permanent operations. In fact, with lighting plants, mills, shops, barracks, residences and so forth, these camps had an imposing appearance in the remote bush.

All of these camps were located within a few miles of each other, close to the confluence of the Barama and the Baramita. Gold claims here were originally discovered by three brothers who came as porknockers to work alluvial gold. However, it was not until companies were formed which could cover the initial expenditure for quartz milling equipment that these claims were extensively worked. Two companies undertook this more elaborate gold mining. They were the Axel Johnson Company and that of the partners Baird and Dragten. Both attempts were eventually defeated. A third company, formed by previous porknockers, made only a brief appearance in the bush from 1943 to 1945.

Certainly the most ambitious of these efforts was that of the Axel Johnson Company, a Swedish-based international enterprise with subsidiaries. In 1934, an expedition was fitted out and arrived at Mazawini Landing on the Barama (Bishop 1941:23). The objective was to cut a line through the bush to Old World, their claim about forty miles away near the source of the Barama. This line would initially serve to haul in mining machinery and later it was to be used as the route of transportation to sustain the undertaking. However, due to

*177 ~~175~~

a lack of preliminary surveying, the expedition proved abortive after penetrating only eight-and-a-half miles into the rain forest. An Allis-Chalmers caterpillar tractor, a trailer, ball-mill, producer gas plant, and other equipment were abandoned in the bush near Macaw Creek. There they served only for the amusement of the Amerindians who made a game of competing to throw the balls the greatest distance.

In spite of this considerable loss, the Axel Johnson Company was not discouraged. Rather, new means were employed to overcome transportation obstacles. In addition to river and bush trail transport, in 1947, air travel was initiated in the area. With the prospect [653] that large sums of money would be spent in the colony to open up this remote area, the Government built an air pool for the mining activities in the Upper Barama. Unassembled equipment was flown in by small aircraft and Old World became an established mining camp.

However, transportation was not the only obstacle to success. Operating on an international basis with prodigious expenditures, the Axel Johnson Company was closely tied to international money markets. In 1949, Britain devalued the Pound Sterling. With the international price of gold set at $35 (U. S.)[2] an ounce by the International Monetary Fund, the company could no longer profitably operate Old World. Despite the removal of a 50¢ per ounce royalty in 1948, and increased production from 286 ounces in 1948 to 1,858 ounces in 1949, Old World was closed. The death of two miners due to an explosion from a gasoline engine in the shaft, and after that the occurrence of a strike, also may have contributed to the abandonment of Old World.

The Baird and Dragten company was indigenous to the colony. It

*177 175 also eventually failed. Rather than expanding an established enterprise, the object was to start one. This company grew out of more generalized porknocking and was based on long familiarity with the Barama River drainage basin.

At the age of seventeen in 1931, Wesley A. Baird came with his father and his father's partner, G. S. Dragten, to work alluvial gold at Kokerite. By 1935, the three of them were working in the Upper Barama area near the confluence of the Barama and the Baramita. For $2000 paid in advance to Booker Brothers, McConnell & Company, the partners received a ball mill, an eight kilowatt electrical generator, a crusher and other machinery. They were credited the balance.

The three men started operations at Golden City. In 1947, the son and partner bought out the older Baird. When the Axel Johnson Company removed from the area, the two remaining partners rented Old World starting in 1950 for $500 a month. In 1950, Baird and Dragten recovered 391 ounces of gold; in 1951, 594 ounces; in 1952, 1,022 ounces. They stayed at Old World until 1953, then moved back to Golden City. Later, Baird moved to Millionaire, and by 1957 he was operating alone in the area. In 1957, Baird produced 1027 ounces of gold; in 1959, 820 ounces. Baird's last move, in the early sixties, was to the camp Reserve from which the mine In Time was worked. This last mine proved to be his nemesis.

For the most part, Baird was defeated by unreliable transportation and communication on which his mining enterprise depended. In the rain forest, the mine shaft had to be continually pumped of water. Three times fuel failed to arrive and the shaft was flooded and

175 damaged. Twice the shaft was repaired. However, after considerable
*177 financial losses over a period of fifteen months, the third inundation of the shaft forced Baird to close the operations late in 1969. Government attempts were made to sustain In Time mine. These did not succeed. Government influence in the Upper Barama River area was rechanneled through a structural reorganization which will be discussed later.

In any event, both of these companies had a long term local
[464] impact. Although incorporating negligible bush materials and Amerindian labor, the brief existence of the Axel Johnson Company
[439] increased the accessibility of the area. Wesley A. Baird's activities contributed significantly to local participation in material exchanges along regional communication and transportation networks.

*177 The building of the air pool already has been mentioned. Previous
175 to its existence, cargo was shipped either up the Barima River or up
653 the Barama River during short periods of high water. Men then carried the supplies overland to the mining camps. The Axel Johnson Company initiated a survey for an air strip. However, this project ceased when Old World was closed. Impressed by Baird's continuing gold activities, the Government carried on the surveying and finally located high ground for an air strip. In 1953, the Baramita Air Strip was constructed. The air pool served to bring in equipment which was assembled in the bush. At the same time, Wapishana Amerindians were brought in to serve as laborers. The completed air
*177 strip of approximately 300 feet cost about $80,000. For easy access
175 between the air strip and In Time, Baird undertook the building of a

*177 175 five mile road for tractor and trailer. This was completed at the estimated cost of $2 a foot in the early 1960's.

As with the air pool, the use of the air strip depended on contracting charter flights. The relatively high cost of passage, plus limited access to this travel through the radio phone and contacts in Georgetown, tended to make air travel an exclusive means of transportation. Only those few individuals who were economically involved in the gold market could use it. For them, the 170 miles to Georgetown were only an hour's distance.

*177 175 439 Attending his mining enterprise, Baird became the broker controlling access to gold and manpower in the Upper Barama River area. He incorporated bush materials and Amerindian labor rather than maintaining a totally supplied enclave. As will be detailed in a subsequent chapter, this greatly influenced local Amerindian cultural adaptations. By relying on bush resources as well as regional markets, Baird was able to withstand for a time the rising cost of production in the face of the constant price of gold. However, his balance between the generalized porknocking and the specialization of industrial gold mining eventually was tipped. As his operations became more immersed in a money economy and his equipment of the nature that had to be regularly sustained by fuel and manufactured parts for repairs, he could not fall back on bush resources. Local bush materials and Amerindian labor could not sustain him during periods of isolation from regional markets. Thus, after thirty-five years in the Upper Barama River area, Baird's gold mining activities were specialized to the extent that they no longer could be maintained

*177 independent of regular contact with regional transportation and
175 communication.

439 Nevertheless, the relationships Baird established during this
period are critical to our analysis. Over the years, he clearly
became the middleman through whom a local economy interfingered with
175 the regional economy. He supplied limited employment opportunities
*177 and market outlets. Thus, a number of Amerindians left aside sub-
464 sistence farming and depended on the wage work he provided. Others
sought occasional employment, and still others supplied provisions
for those engaged in mining activities. All of this had an important
impact on the Amerindian population.

*177 In effect, Baird became a patron of Amerindian clients. As such,
175 he was subsequently the person through whom government services were
466 introduced and government support was elicited. During the later
659 years of Baird's gold mining activities, government health care was
first introduced. The support elicited was a call for Amerindian
votes. Eventually, when Baird gave up mining, he assumed an official
role as government employee. His position as the broker controlling
access to the Amerindians in the Upper Barama was clearly underscored
by the missionary attempt to establish a similar relationship.

Missionaries

175 The Pilgrim Holiness Church Corporation is a fundamentalist
*177 organization based in the midwestern United States. They have been
797 active in Guyana at least since the early 1920's. Their early
activities were on the coast and later expanded into the interior.

175 *177 797 The brief existence of their mission in the Upper Barama River area is recorded only by a few poorly remembered portions of dogma. The health services, occasional employment opportunities, clothing, ammunition, and food commodities the mission provided had a far greater impact.

In 1963, a reverend from the Pilgrim Holiness Church established a mission at Baramita Air Strip. He came alone at first to make a camp. Later he brought his family. In 1965, this family was replaced by another missionary family. Also, a nurse came to open a [726] clinic. In the spring of 1969, following the unsuccessful Rupununi Rebellion,[3] the missionaries left Baramita Air Strip as requested by the Government. The abandoned missionary buildings and twenty acres of ground were later incorporated into community development service.

[657] The isolationist program of the Pilgrim Holiness Church was in conflict with the Government's goal of Amerindian integration. They disclosed a strategy of imposing their mission as the exclusive link between the Amerindian people and outside influences. Accordingly, they were equipped with independent means of communication and transportation - a radio phone and a small plane. With these, the missionaries were free to disregard national boundaries in their efforts to secure a congregation by providing for the material wants and needs of the Amerindians.

However, the missionaries came too late in the history of the Upper Barama River to compete as middlemen in controlling access to the Amerindians. With their limited resources, they were unable to

175 co-opt the permanent exchange relationships which Baird had already
*177 established. The missionaries' greatest success had been with those
797 few people living at the Air Strip who were not immediately affected
by the local mining economy. Furthermore, Baird, with his long
standing allegiance to Guyanese nationalism, had always acted as the
emissary for the Government in the region. In contrast, the American
missionaries operated internationally in the promotion of their own
interests. Clearly, Baird was the obvious choice for government
[648] support in this strategic frontier outpost close to the Venezuelan
border, particularly since 1962 when Venezuela reopened a border
dispute along the North West District.[4]

175 International events have made the remote Upper Barama River area
*177 strategic to Guyana's national development. In order to secure the
657 hinterland, programs have been designed to tie these areas to the
national political economy. In the Upper Barama area, this goal has
been implemented by a settlement project at Baramita Air Strip.

The Baramita Air Strip Settlement

175
*177 Late in 1969, Baird ceased mining operations altogether. His
imminent withdrawal from the area would have left many impoverished
Amerindians exposed to the potential of Venezuelan influence. It
was also important not to abandon the air strip close to the
*177 Venezuelan frontier for other than Guyanese use. Thus, government
175 programs were introduced with new resources administrated by new
657 personnel. Baird moved to Baramita Air Strip where he assumed a
361 salaried position as Project Officer in the Department of Interior

*177 175 657 361 Development. The Amerindians who had previously worked for him quit their settlements around the mine and followed Baird to the air strip. In Time, Baird's mine, was left derelect; the era of gold activities was ended. Resource opportunities in the area now tend to be concentrated at the air strip, and the Caribs have nucleated around them.

*177 175 657 To some extent, government programs and services had reached these Amerindians before the creation of the Baramita Air Strip community. Due to the remoteness of the area, the Aboriginal Indians Protection Ordinance of 1910 little affected the Upper Barama River Caribs. Likewise, the government policy of Amerindian integration expressed in the Amerindian Ordinance of 1951 did not directly affect these Caribs either until recently. The extension of health services and participation in national elections have already been mentioned. Since 1960 , a malaria eradication program has been conducted in the area. This includes testing the population with blood smears, distributing salt medicated with chloroquine, and spraying habitations with DDT. Also, at various times, health teams were sent into the bush to treat epidemics. Individuals too sick to benefit from locally available care have been sent by plane to public health facilities in Georgetown. However, in addition to these measures, aid for more moderate disabilities and preventive health care were added with a resident Medical Ranger.

*177 657 Health services, a government school, markets for crops, and agricultural assistance are now locally available. A Medical Ranger, an Agricultural Field Assistant, and a School Master are in residence. A doctor holds a clinic once a month at the Air Strip. All of these

*177 facilities for local community development have been introduced in
657 the period of a few months. The structure through which they are
available is diagrammed in Figure 3. Baird's autonomous position as
a gold miner has changed. As Project Officer, he is now responsible
for locally implementing government programs and supervising facil-
ities that cut across the responsibilities of several Ministries.
These include the Ministry of Health, Ministry of Education, Ministry
of Agricultural and Natural Resources, and Ministry of Local Govern-
ment. In addition to his position in the Interior Development
Department, Baird is also an agent for the Post Office Department,
Civil Aviation, and Guyana Airways Corporation. By July 1970, the
*177 Baramita Air Strip community was established. Two new buildings
361 constructed along the air strip to house government personnel add to
the appearance of a settlement.

*177 In addition to these services for the population, the Ministry of
622 Local Government has provided for the development of local Amerindian
[666] leadership. As with all Amerindian populations in the interior,
local elections are held. The first occurred in the Upper Barama
River area at In Time in October 1967. A second election was held at
the air strip in October 1971. A Captain and three Councillors are
chosen. The Captaincy is a salaried position; councillorship is not.
Thus, one more source of external resources is available to this
population.

*177 The question of local land tenure also has received government
175 attention. However, the Amerindian request for land titles occurred
423 without the participation of the Upper Barama River Caribs who have
657

[TEXT CONTINUED ON PAGE 32]

*177
657
622

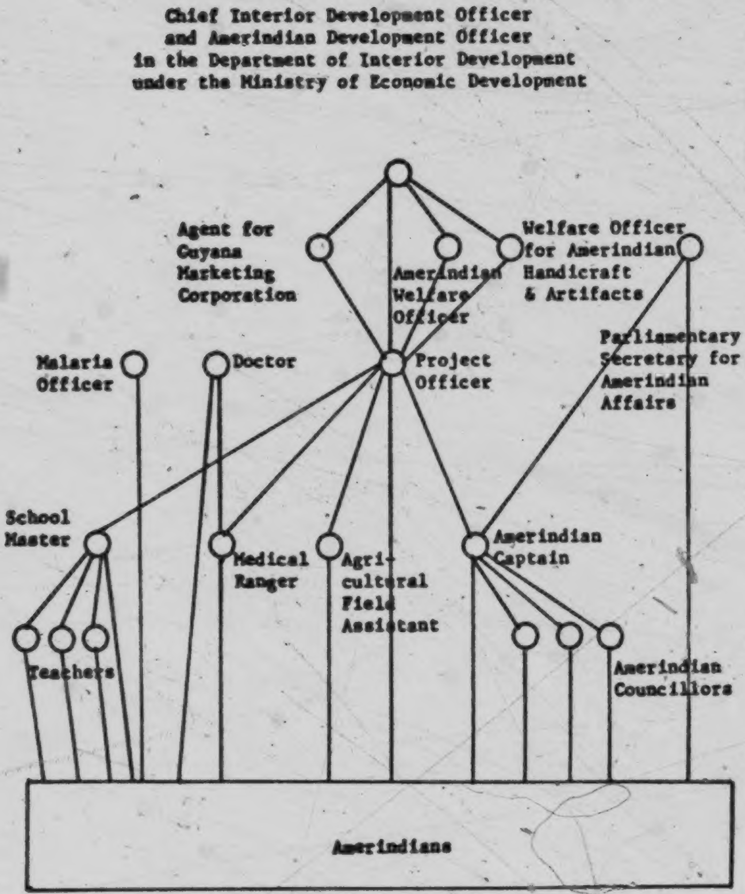

Chief Interior Development Officer
and Amerindian Development Officer
in the Department of Interior Development
under the Ministry of Economic Development
Agent for
Guyana
Marketing
Corporation
Amerindian
Welfare
Officer
Welfare Officer
for Amerindian
Handicraft
& Artifacts
Malaria
Officer
Doctor
Project
Officer
Parliamentary
Secretary for
Amerindian
Affairs
School
Master
Medical
Ranger
Agri-
cultural
Field
Assistant
Amerindian
Captain
Teachers
Amerindian
Councillors
Amerindians

Figure 3. Structure of Governmental Employees.

*177 175 423 657 remained uninformed of the following steps. In 1962, the Amerindian Association was formed. During the 1965 Conference to discuss Guyana's independence, their petition was successful. The granting of legal ownership or right of occupancy over land to Amerindians was included in the body of law resulting from this conference. An Amerindian Lands Commission worked from September 1967 to August 1969. With regard to the Upper Barama River area, no title requests were submitted. The Commission recommended the encouragement of a nucleation of the scattered population and the establishment of a protective district in which land is set aside for the use of Amerindians (Amerindian Lands Commission 1969:204). Figure 4 is a map presenting the boundaries of this proposed district.

*177 657 In short, the development of citizens is currently the sole activity in the Upper Barama River area supported by an outside agent, the Guyanese Government. Limited transportation and communication facilities continue to be an obstacle, as they were to those seeking gold. Interior air transportation is subsidized by the Government. Guyana Airways Corporation has a scheduled flight on Friday mornings to Baramita Air Strip, a stopover on the regular route to Matthew's Ridge. However, the flight is subject to delay and cancellation. Also, there is no certainty which week expected cargo will arrive. Passage to Georgetown is $26 and cargo is 13¢ a pound. These prices are beyond the means of the local Amerindians. Thus, air travel remains exclusive. However, the Guyana Marketing Corporation pays the air freight of agricultural produce.

*177 Overland transportation which would provide quick, cheap, reliable

[TEXT CONTINUED ON PAGE 34]

102
131
133
361

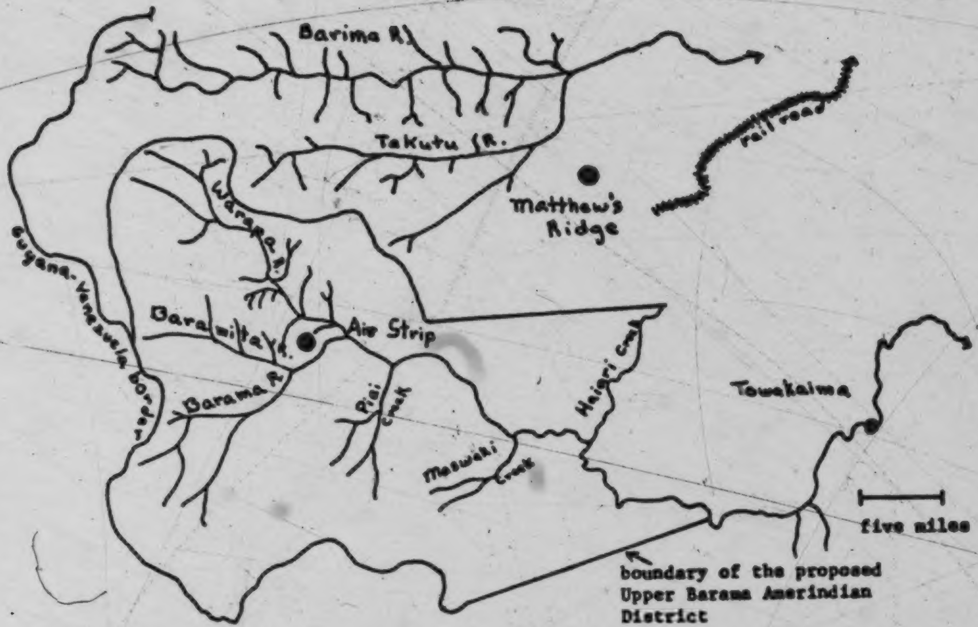

Barima R.
Takutu R.
Matthew's Ridge
railroad
Waranna R.
Baramitta R.
Air Strip
Barama R.
Guyana-Venezuela border
Pisi Creek
Haiari Creek
Maswaki Creek
Towakaima
five miles
boundary of the proposed Upper Barama Amerindian District

Figure 4. Proposed Amerindian District in the Upper Barama River Area.

*177 access to markets within this region of the interior does not exist. However, a road linking the Baramita Air Strip to Matthew's Ridge, about thirty-six miles away has been proposed and is much discussed. Should such a road be built, the Upper Barama area would again be more closely tied to other areas within the North West District than to Georgetown.

*177 175 To summarize, the succession of influences which have affected the Upper Barama area are the gold prospectors, mining companies, missionaries, and currently, government programs. In relation to the local population size and social organization, these lenses of regional influence remain a situational component. In effect, they have provided the social environment to which population size has responded and cultural patterns have been reorganized. As is evident, there has existed no persistent source of external resources which overrides the importance of maintaining adaptations to local resources. Unreliable communication and transportation render external resources undependable. However, the manner in which external resources have reached these Caribs as well as their impact on the population size and social organization remain to be considered.

NOTES

000 [1] Matthew's Ridge was developed by the North West Mining Company, a subsidiary of Union Carbide Corporation, which undertook open pit mining for manganese ore. Operations started in March 1960. Ore was transported by rail to Port Kaituma. From there it was shipped to either the United States or Norway. At the height of activities, 600 men from the coast were employed and a community of 2000 was sustained. However, late in 1968 operations were suspended. The Guyanese Government subsequently introduced agricultural programs in an attempt to maintain Matthew's Ridge. Amerindians, more or less as scavengers, find marginal opportunities there.

Also, some Upper Barama River Caribs have left to join Cuyuni River Caribs. There, the Guyana Defence Force maintains a permanent camp. It too provides marginal opportunities for the Amerindians.

[436] [2] Unless otherwise specified, all monetary denominations are recorded in Guyanese dollars. Two Guyanese dollars are approximately equivalent to one U. S. dollar.

Since the devaluation of the U. S. dollar in 1971, the international price of gold is about $60 (U. S.) an ounce.

[3] The Rupununi Rebellion began on January 2, 1969. About forty ranchers and ranch-hands from the Rupununi Savannahs participated. An armed attack was carried out on the police station in Lethem. Radio phones were captured and air strips in the area were blocked, except for the grass air strip at Manari. Though this one open air strip was small and not centrally located, policemen and Guyana Defence Force soldiers were flown into the Rupununi Savannahs. On the morning of January 3, this contingent moved on Lethem, and the rebels fled. The previous day four policemen and one Amerindian had been killed. The rebels had been trained in Venezuela, and attempts were made in Venezuelan radio broadcasts to camouflage the events as an uprising of the Amerindian people.

[4] In 1962 Venezuela reopened a border dispute that presumably was settled in 1899. Representatives from Venezuela claim collusion among the British and a five man panel that had established the present border. The Venezuelan territorial claim extends to the Essequibo River. International law supports the present border. In the fall of 1966, Venezuelan soldiers occupied the Guyanese portion of Ankoko Island in the Cuyuni River. These soldiers later retreated. The next event occurred in June 1970. A Protocol was signed by Guyana, Venezuela, and the United Kingdom. Venezuela agreed to suspend its claim for a minimum of twelve years.

III

SETTLEMENT PATTERN AND POPULATION SIZE

175 From 1932 to the present, the core of Carib people who have
162 remained in the Upper Barama River area have been recruited from the
indigenous population.[1] The continuity of the 1970-71 population
with that existing in the Upper Barama River area during 1932-33 is
readily apparent. First, one person in present at both time periods.
159 Charlotte[2] was an adolescent wife of John Miller, the headman of
621 Savari, when Gillin made his study (1936:118). She is now a widow in
her late fifties and lives with her two daughters and son-in-law at
the Air Strip. Charlotte's son by Adolphus Miller, who took her as
a wife when his father died, is also present. Two other children of
John Miller, a son and a daughter whose mother was Charlotte's sister
also are in residence at the Air Strip. These relationships are
summarized in Figure 5.

Tracing the continuity in a different manner, Rosa Jacob is about
[602] sixty years old and is a prominent resident at the Air Strip. She
can recall a kinship relationship to all of the other residents. She
is a cross cousin to John Miller, his father's sister's daughter. Of
162 course, all of these people except Rosa are deceased. Exact relation-
602 ships among all individuals in the population cannot be established
as memories are shallow regarding kinship. Nevertheless, it can be
safely assumed that all members of the Upper Barama River Carib

[TEXT CONTINUED ON PAGE 38]

621
602
601

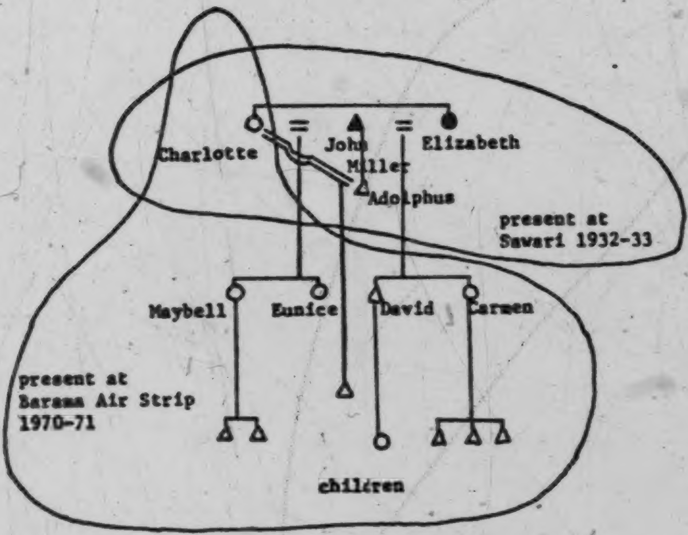

Charlotte
John Miller
Elizabeth
Adolphus
present at Sawari 1932-33
Maybell
Eunice
David
Carmen
present at Barama Air Strip 1970-71
children

Figure 3. Offspring of John Miller among the Current Population.

162 602 population are related in some manner.

In addition to a generational continuity of the human group
175 571 involved, there has also been a continuity in interaction. That is,
166 during the period under consideration, material exchanges and the
migrations of individuals among Carib settlements in the Upper
Barama area have been more pronounced than such exchanges with out-
side settlements. This permits the Upper Barama Caribs to be
[121] identified as a single adapting population for the purpose of this
*177 analysis (Rappaport 1969:184). However, the frequency of contacts
361 and the nature of movements among settlements have changed. Specifi-
cally, small, dispersed, semi-nomadic social units have given way to
nucleations around centers where external resources are available.
In this context, different settlement patterns would appear to
represent different adaptations devised by the same group of people
[161] to meet differing conditions. Differing rates of population growth
also would appear to be the result of the changing circumstances.

Settlement Pattern

175 161 During 1932-33, Gillin estimates a Carib population of not more
361 than 600 for the entire Barama River area (1936:113). In all,
thirty-three settlements were located along the Barama River (1936:
110). About ten[3] were above Towakaima (see Figure 6). This includes
the Savari[4] settlement for which more complete population data were
175 recorded. The population for this settlement consisted of forty-seven
161 individuals (1936:110). Since the primary adaptation was to the rain
162 361 forest, there were no reported concentrations of population in the

[TEXT CONTINUED ON PAGE 40]

102
103
133
175
361

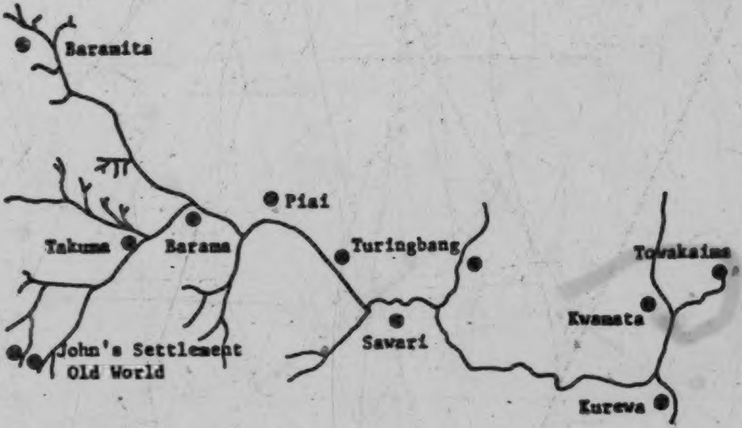

Baramita
Piai
Takuma
Barama
Turingbang
Towakaima
Kwamata
Savari
John's Settlement
Old World
Kureva

Figure 6. Map of Settlements,* 1932-33 (after Gillin 1936:2).

---

*Data are not available on the population sizes of these settlements. Individuals in settlements fluctuated between fifteen to fifty in number (Gillin 1934:333).

[162]

175 Upper Barama area. Rather, the settlements were dispersed along the
161 river corridor and varied in population size from fifteen to fifty
162 individuals (1934:333).[5] The Carib settlements were named for the
361 [103] creek they were near (1936:98), and house structures were located in
the cultivated fields. Thus, locations fluctuated around a creek as well as among creeks. Accordingly, ten inhabited settlements in the Upper Barama River area could be estimated to represent a population
[126] of perhaps 200. This number is also supported by geneaologies recorded in 1970-71.

175 With respect to interactions among these settlements in the Upper
628 Barama River area, Gillin reports that the residents of Savari were in contact with Haiari, Kwamata, and Kureva (1936:106). He also reports that this group of Caribs was "completely out of touch with those farther up the river" (1936:106).

Subsequent inquiry reveals this may not have been the case.[6] Verbal communication as well as a recognition of kinship relationships seem to have been maintained throughout the Upper Barama River area during this early period. In 1970-71, one informant remembers that as a small boy he accompanied an adult male relative on a walk from one of the settlements in the upper section of the Upper Barama
*[177] River to visit other relatives in Savari. They were lured by news of the white man (Gillin) living there and curious enough to go and see for themselves. However, when they reached Savari, Gillin was in Georgetown. The travelers had to content themselves with a close examination of all the camp gear.

Contacts among the Carib settlements on the lower section of the

175 Upper Barama seem to have been more frequent than contacts among the
628 Carib settlements in the upper section of the Upper Barama. However,
it is also apparent that the most immediate external contacts each
group of settlements had were with each other.

In 1932-33, the frequency of contacts seems to have been relative
to distance. That is, no specialized settlements are reported in
175 respect to seasonal or other activities. All Carib settlements seem
361 to have been much alike in their dependence on the rain forest. The
[182] bush resources relied upon include predominantly territorial animals
and widely dispersed plant species. Desirable land for cultivation,
a mixture of sand and clay on a hillside in close proximity to a
permanent stream, was limited (Gillin 1936:14). As a consequence,
settlements are widely scattered. Figure 7 depicts the dispersed
nature of Carib settlements in the Upper Barama River area for this
earlier time period. Realignments would occur with the relocation
of settlements. After a number of years, a move might be made to
more advantageous hunting and gathering and more fertile soil. Other
cultural practices as well promoted this scattered, shifting pattern
[586] of settlement. A divorce tended to result in the relocation of
[572] individuals (Gillin 1936:79-80): the rupture of male friendships, in
[775] the relocation of households (1936:136). Also, due to a belief in
[768] the malevolent nature of a person's spirit, a clearing would be
abandoned in the event of a death (Gillin 1936:165).

175 Later, with the availability of external resources, settlements
*177 were no longer scattered solely along the Barama River corridor.
361 Over time, a centralization of settlements developed in relationship

[TEXT CONTINUED ON PAGE 43]

175
361

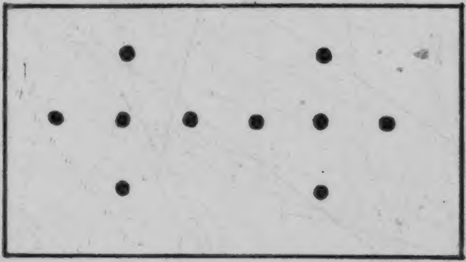


Figure 7. Dispersion of Settlements along River Corridor, 1932-33.

175 to employment opportunities. Around the mine In Time, a nucleation
*177 of population is clearly evident. The settlements further away from
361 the mine were the first abandoned. Many of these people left for Matthew's Ridge or the Cuyuni River. However, the employment and market opportunities at In Time attracted and supported the largest portion of the local Carib population.

*177 The permanent workers at In Time had no large farms. They resided
175 close to the mine and bought provisions. There were two of these
361 residential groupings, one around the mine and one at Big Creek. In
162 the spring of 1969, there were 103 residents near the mine and sixty-eight at Big Creek. Also, three satellite settlements dependent on frequent opportunities to sell provisions and occasional employment were located less than ten miles away from the mine. These were Aranka with a population of ninety and Baramita[7] with forty-seven (see Figure 8). In addition, fifty-three people were located at Baramita Air Strip itself. By this time the declining activities at the mine and the limited opportunities provided by the missionaries attracted some people to the Air Strip. The remaining population was located in more remote settlements including thirty-nine at Piai Creek, thirty-six at Korotoko, thirty-four at Barama Head, twenty-nine at Korisho, and five at Maswakai.[8] The average population size of
[161] these more remote settlements was about thirty-five people.[9] Thus, the total population was 504.

*177 It must be noted that the Amerindian Captain has been active in
175 attempting to settle Carib people at the Air Strip. In 1969 he had
361
622 a measure of success among the 119 Caribs from the five settlements

[TEXT CONTINUED ON PAGE 46]

102
103
133
175
361

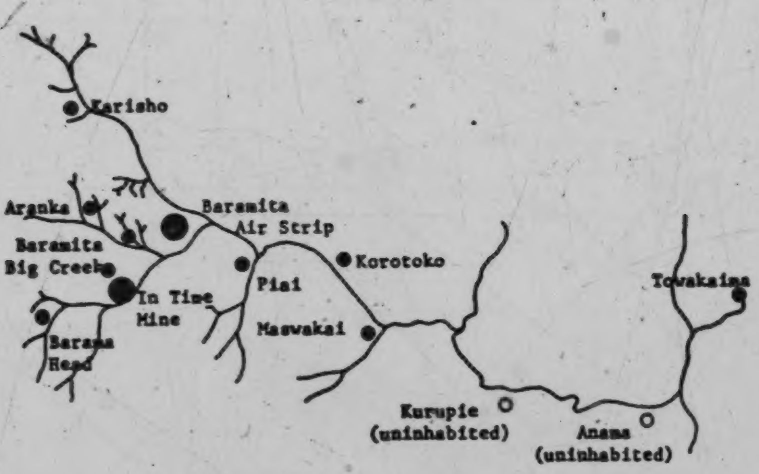

Karisho
Aranka
Baramita
Air Strip
Baramita
Big Creek
Korotoko
Piai
In Time
Mine
Maswakai
Barama
Head
Towakaima
Kurupie
(uninhabited)
Anama
(uninhabited)

Figure 8. Map of Settlements, 1969.

TABLE 4

361 POPULATION OF SETTLEMENTS, 1969

162

161

In Time	103
Big Creek	68
Aranka	90
Baramita	47
Baramita Air Strip	53
Piai	39
Korotoko	36
Barama Head	34
Karisho	29
Maswakai	5*
Total	504

---

(166) *This number had been recently depleted by 32. These people along with the entire population of Anama, 32, and 19 from In Time had gone to Matthew's Ridge.

175 in the headwaters of the Barima River. He was able to convince
*177 several men from Cedar, one of the settlements, to cut a communal
361 farm at Black Water Creek, about two miles north of the air strip.
622 For a time, twenty-four people from Cedar were living there. Later, they went back to Cedar, only sporadically returning to camp out for a few days or so to make use of the facilities at the Air Strip. It is clear that this smaller Carib population from the headwaters of the Barima River remains peripheral in an analysis of cultural change among the Upper Barama River Caribs.

*177 Figure 9 summarizes the settlement pattern in the Upper Barama
175 area in 1969. The greatest nucleation of population occurred in
361 zone a. There, 171 people were directly supported by mining activi-
464 ties at In Time. In zone b, the larger but more dispersed population of 190 was more indirectly involved in the mining economy. Lastly, the remaining population of 143 was dispersed in five more independent settlements in the rain forest. Settlements are varied in purpose. However, the Upper Barama River Caribs as yet do not have two or more house sites where they engage in different activities.
[657] This occurs with the introduction of government programs and services at Baramita Air Strip.

*177 During 1970-71, the population located in the Upper Barama River
361 area was centralized in varying degrees around Baramita Air Strip
162 (see Figure 10). In the summer of 1971, there were 333 residents at the Air Strip. Of this number, 232 are permanent residents. The remainder are mobile, part-time residents who also maintain farms in the more remote settlements. Also in the spring of 1971, Aranka had

[TEXT CONTINUED ON PAGE 50]

175
*177
361

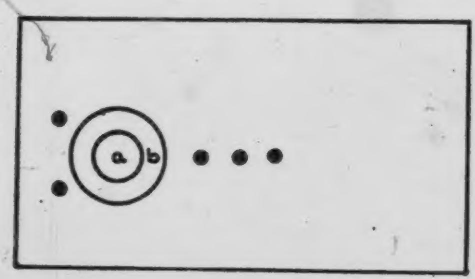


Figure 9. Partial Centralization of Settlements around Mine, 1969.

102
103
133
*177
361

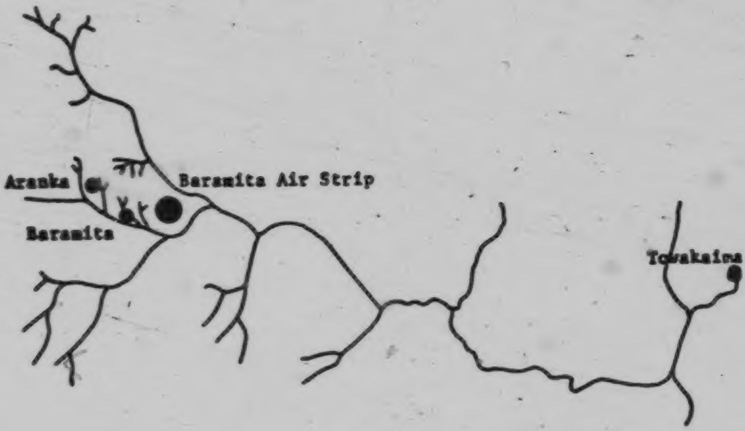

Aranka
Baramita Air Strip
Baramita
Towakaima

Figure 10. Map of Settlements, 1970-71.

TABLE 5

361
161
162

POPULATION OF SETTLEMENTS, 1970-71

Baramita Air Strip	333
Aranka	114
Baramita	69
Total	551*

---

*This number includes the old man and woman at Piai.

*177 a population of 114 and Baramita sixty-nine. These two settlements
361 also have mobile residents who have access to farms in still more
162 remote areas. The latter include thirty-five inhabitants.[10] In
[161] total, there were 551 Carib people in the Upper Barama River area in
1971.

*177 Increasingly, the practice of abandoning a house site in the case
768 of a death is being neglected. A cemetery some distance away is
[764] being used at the Air Strip. Several older graves around house sites
are disregarded. Apparently, priorities of location override this
tradition.

*177 Figure 11 shows the current settlement pattern. Both zone a and
361 b have permanent residents. Zone c residents also make use of farms
in either zone a or b. There is little direct movement between zone
a and b. The partial centralization of population initiated by the
local mining economy has been completed. Within the existing nucleation, the center has been changed from the mine to the air strip.
The remaining population has been drawn into this locus. In contrast
to the limited opportunities available at the mine, some of the
[657] opportunities at the Air Strip are public. That is, they are avail-
able to all Caribs. These new resources are the clinic, the school,
[464] and agricultural assistance. However, very few employment opportuni-
[241] ties are available at Baramita Air Strip. Bush farms must be maintained and returned to in the case of the permanent workers who had
left aside subsistence in the rain forest.

Consequently, a pattern of dual residence appears to be emerging in response to resource development. The local Carib population has

[TEXT CONTINUED ON PAGE 52]

*177
361

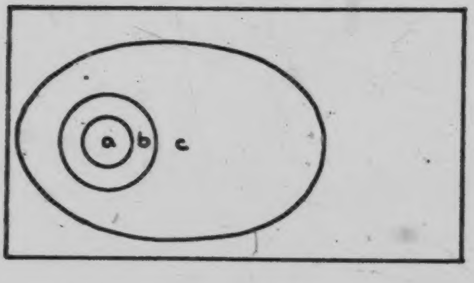


Figure 11. Completed Centralization of Settlements around Baramita Air Strip, 1970-71.

*177 centralized to make use of the government programs and services
361 available at the Air Strip as well as maintain an advantageous subsistence relationship to the rain forest. From the preliminary data available on the resettlement around Baramita Air Strip, a dual pattern of residence is evident only in respect to those people who have moved in from the more remote settlements. To some extent, this pattern reflects the several months required to develop a productive farm in a new location while relying on an established farm. As yet, permanent residents of the Air Strip and the two satellite settlements of Aranka and Baramita have not cut fields in the more remote areas. The further development of a pattern of dual residence will depend on persistence in the extent and nature of regional networks of exchange at Baramita Air Strip.

361 At the present time, the aggregation of people at the Air Strip plus those in the satellite settlements have put a burden on the
[224] local resources in the immediate area. With regard to hunting and
[222] gathering, greater effort is given for meager results around the Air
[484] Strip so that longer trips must be made. Also, the higher, dry land
361
312 suitable for an air strip does not provide a reliable water source during the dry seasons. People must dig in the dry stream beds and at times have temporarily moved and camped out on the banks of the
361 Barama River until rain came again. House structures continue to be
342 located inside cultivated fields, and large tracts of land have been opened up around the air strip.

241 A survey completed in late spring 1971 revealed that 140 acres of
311 bush had been cut for farms around the air strip. To avoid disputes,
*177

241 311 *177 agreements are made concerning the direction particular men will move in cutting down bush for new fields. Land which would traditionally be regarded as unsuitable for farming is being used. Increasing land areas are being exposed and, thus, the potential for extensive land deterioration exists. The ultimate impact of these activities by 551 people within fifty square miles of bush cannot be completely related in that the data available disclose the effect of only the first year of this more centralized settlement pattern.

361 *177 In conclusion, among the Upper Barama River Carib population, the capacity for transience has been differently adapted to the succession of resource situations. The first settlement pattern was an adaptation in a position of relative isolation in the rain forest. In response to the dispersed nature of local subsistence resources, the Carib population was dispersed in settlements along the river system. [628] These settlements fluctuated in population size, and there is evidence to suggest that personnel exchanges were more frequent within two groups of people, one located in the upper section and the other in the lower section of the Upper Barama River corridor. In any event, this was changed with regional contacts and exchange opportunities. A nucleation of the local population has emerged in response to the introduction of centers of external resources, the mine and the air [464] strip. At the mine, employment was available to only a portion of the Carib population. The remainder of the population maintained a subsistence in the bush, although incorporating occasional market opportunities at the mine. The mobility of the unemployed population in the satellite settlements of Aranka and Baramita, and perhaps the

361 *177 more remote settlements, was somewhat checked by these markets for local commodities and temporary employment. In order to make use of the government programs and services and yet escape the diminished hunting and gathering opportunities, a pattern of dual residence appears to be emerging with the complete centralization of the Carib population around Baramita Air Strip.

Demographic Features

162 Attending these changes in settlement pattern are changes in population size and age structure. The Upper Barama River Caribs have not been an isolated reproductive population. Although both males and females have left the population, only males have joined it. Thus, for the time period under consideration, the reproductive potential of the females remaining in the population has been realized within the Upper Barama River area. Although the current population does not represent the total reproductive experience of the 1932-33 population, it can serve to give insight into the nature of the increase in population size.

121 16 It has been noted that the size of human populations is regulated by cultural practices (Lorimer 1954; Nag 1962) as well as physiological factors (Stott 1962). The present analysis addresses variations in the size of one population adapting to changing environmental conditions. This approach does not lack precedence (Wagley *177 1951; Hinshaw, Pyeatt, Habicht 1972). However, in this case data 162 from different time periods are available on a single, relatively small population. The change in size from about 200 to 551 can be

*177 traced over a forty year period during which external resources have
162 been added to those locall- available. Fortunately, the external resources under consideration, employment and exchange opportunities and medical care and other government services, have been introduced with sufficient separation in time so that their specific relationships with population changes can be investigated.[11]

175 In 1932-33, Gillin observed that the Upper Barama River Caribs
*177 were relatively unaffected by external influences (1936:111). Their
162 population size reflected the local emphasis of their adaptation. As already mentioned, it can be estimated that there were about 200 Caribs in the Upper Barama River area during 1932-33. At this time the ratio of adults to children was about one to one (1936:204). For adult classification, Gillin required males to be over twenty-one and females over eighteen (1936:205).

For the Savari settlement in the Upper Barama River area, Gillin recorded forty-seven individuals (1936:110). Of this group, twenty-six are adults and twenty-one are children. This includes thirteen men and seven boys, fourteen women and thirteen girls. In this instance, puberty distinguishes adult from child. For some individ-
[114] uals, Gillin estimates their age as an aspect of general description,
but he does not do this for all individuals. Consequently, little can be said regarding a more accurate age structure for this early time period.

175 Regarding behavioral patterns that regulate population size,
168 Gillin reports no restraints on the sexual activity of married
834 partners except for an abstinence of about a month after the birth of

175
168 a child (1936:76). No adult of reproductive age seems to have
834 remained for long outside of a marriage bond. Extramarital sexual
[837] encounters were not uncommon, and adolescents were not prevented from
[836] sexual experimentation (1936:72). The separation of sexual partners
did not intervene to limit population size.

175 Contraceptive measures are reported to have been familiar to both
168 men and women (1936:73). These include "bush medicines" and "ritual-
842 istic treatments" performed by a piaiman or shaman. However, the
[756] exact species are not identified and their efficacy as well as the
incidence of their use are not noted. Old women were reported to have
[887] been experienced in inducing abortions through the use of an infusion
[847] of bush herbs and manual manipulation including the insertion of small,
sharp sticks.

175 Aside from these behavioral controls, there apparently were
145 physiological factors at work. These are mentioned but their effects
168 cannot be established. Gillin notes, for example, that it was rare
for an adolescent girl to become pregnant (1936:73). Regarding this
observation, Gillin suggests that temporary sterility and ineptness
of technique may explain the lack of pregnancies. Also, the incidence
[164] of malaria, hook worm, round worm, and other parasites may have con-
tributed to periods of sexual inactivity and temporary sterility as
well as affecting the mortality of infants and others.

175 In sum, for the 1932-33 period, those behavioral and physiological
162 factors which affected population size were recorded without regard
for their situational context. Still, the reproductive results seem
clear: i.e., the ratio of adults to children was about one to one in

175 a population of approximately 200 people. This provided a density of
162 approximately one person per five square miles along the Upper Barama
[[61] River corridor.

*177 Over time, with the introduction of external resources, this
162 relationship has been changed. The niche of the Upper Barama Caribs
was first extended by exchange and employment opportunities. Peberty's
observations (1948) on this population were made during the first ex-
[161] tensive involvement in employment. However, the data presented take
the form of estimates rather than actual figures.

114 Peberty visited the Upper Barama River area sometime between
161 December 1945 and February 1946 for the purpose of making suggestions
181 for Amerindian development. He reports that "The Upper Barama River
Caribs are the most impoverished and traumatic aboriginal group that
I have encountered throughout the length and breadth of British
Guiana" (1948:20). In part, he attributes this condition to the loss
of Carib crafts as a consequence of opportunities with the miners.
[165] Peberty reports further an unspecified but "relatively high" infant
mortality (1948:15). However, he provides no explanation. Also, he
suggests that a reputed decline in the population is related to the
"morbid conditions of these contemporary Carib groups" (1948:20). He
estimates about 474 Caribs for the Upper Barama River area and the
114 Barima tributaries (1948:15). Little can be said regarding population
161 increase or decrease at this time from his observations. However,
there is one indication that the population size reported by Gillin
[666] was little changed. In 1953, eighty-eight adults were registered to
vote in the Upper Barama River area.

175 Clearly by the 1940's, exchange and employment opportunities play
*177 an important role in respect to this Carib population's adaptation.
161
[464] Men were being regularly engaged in mining activities and increasing
numbers of them were permanent workers for Baird. Despite Peberty's
comments, there is evidence that the reproductive pattern was greatly
changed.

175 In 1960 government census provides the first evidence of this
*177 increase in population size. Unfortunately in this report, the
162 inhabitants between Kokerite and Towakaima were counted with the
Upper Barama River Caribs. In this larger group, there were 565
people, including 285 males and 280 females. As a partial indication
of what portion of these were in the Upper Barama River above
Towakaima, 142 adults from this area were registered to vote in 1961.
Table 6 presents the age structure and sex composition of the larger
[163] Carib group. Also, for the year preceding the census, there were 13
births all occurring to women under 45. Expressed as a crude birth
rate, this is 23.5 births per thousand total population.

175 In the investigation of the change in population size, it must be
657 pointed out that early health care was haphazard at best. Systematic
health care was not available until very recently. It should be noted
that 1960 was the first year the Malaria Eradication Programme was
175 extended into the Upper Barama area. At that time, 271 smears were
657 taken and 23 were positive for malaria. This is an incidence of
164 malaria for 8.6 percent of the population tested. The Malaria
Eradication Programme resumed in the Upper Barama area in the summer
of 1966. At that time, 314 people were tested. Of this number,

[TEXT CONTINUED ON PAGE 60]

TABLE 6

175
162

AGE STRUCTURE AND SEX COMPOSITION OF THE CARIB INHABITANTS IN THE UPPER BARAMA RIVER DRAINAGE BASIN INCLUSIVE OF AND ABOVE KOKERITE, 1960*

	male	percent of total male	female	percent of total female
65 and over	3	1.1	0	0
45-64	25	8.8	21	.5
15-44	116	40.7	120	42.9
2-14	128	44.9	125	44.6
under 2	13	4.6	14	5
Totals	285		280	

Complete Population Total 565

---

*table compiled from pages 5-31 and 5-32 of the 1960 Government Census

175 82 had malaria and 126 had had it recently. Together, this is an
657 increase to 66.9 percent of the tested population. In the fall of
164 1967, there were 412 people living in the Upper Barama area according to the Malaria Eradication Programme reports. Of this number, 396 were tested for malaria. At that time, only 14 were positive for the disease, 23 were positive for recent fever. This is a reduction to an incidence of 9.3 percent of the tested population in little more than a year. Since then, there have been no positive tests for malaria in the Upper Barama area.

657 More short term campaigns have been made to treat other diseases
164 among the Upper Barama Caribs. Although there are no records of
165 mortality among this population, epidemics which have caused multiple deaths have been attended by medical teams from Georgetown. In the summer of 1966, about 150 people were treated during an epidemic of measles. Later, an outbreak of gastroenteritis received the attention of a medical team. Seven people died during this last epidemic. Most other deaths have been single events.

164 There are no reliable records for the incidence of other diseases. Worms and other parasites are still a major health problem. This is especially the case around Baramita Air Strip with so many families
[514] commonly using small creeks for all purposes. There has been some
*[177] efforts to promote the use of pit latrines, and four of these are in
146 existence at the Air Strip. Also, malnutrition is a health factor. During the year of field work, weight loss was observed among the
[142] people who had been dependent on employment at the mine. Also, burnished hair and pot bellies, signs of protein deficiency, are

146 common among all children in the age range from about eighteen months
[142) to four years. These children no longer nurse and yet are not old
enough to effectively gather casual protein and other foods on their
[597) own. However, if a family's subsistence crisis becomes extended, a
child in this age range may be given up for adoption, usually by a
family of immediate kinsmen. Three cases of such adoption recently
occurred among the segment of the population at the Air Strip. Con-
146 sequently, the protein deprivation of children was not sufficient to
165 cause any deaths during August 1970 to July 1971. For this period,
two deaths occurred in the total population. Both were in the age
category of over sixty-five.

*177 Clearly, health programs cannot be held responsible for any major
161 changes in population size which occurred before 1960. Health care
657 has been introduced only in the last years and certainly has influenced
[165) the mortality rate of infants and others. Nevertheless, the change in
the pattern of reproduction occurred previous to these health meas-
ures, as will be apparent from data collected among the population in
question during 1970-71.

162 During 1971, there were 551 Caribs in the Upper Barama River
361 drainage basin. This number includes 280 males and 271 females. The
age structure and sex composition for the total population are pre-
sented in Table 7. Table 8 reports the age structure and sex com-
position for the segment of the population at Baramita Air Strip;
Table 9, for the remaining population in the satellite settlements.

162 As is clear, 264 or 47.9 percent of the total population is under
*177 ten years of age. Also, it is apparent that this larger proportion

[TEXT CONTINUED ON PAGE 65]

TABLE 7

AGE STRUCTURE AND SEX COMPOSITION FOR UPPER BARAMA RIVER CARIB POPULATION, 1971

162

	male	percent of total male	female	percent of total female
75 and over	1	.4	1	.4
70-74	2	.7	1	.4
65-69	3	1.1	3	1.1
60-64	5	1.8	2	.7
55-59	5	1.8	3	1.1
50-54	6	2.1	1	.4
45-49	7	2.5	9	3.3
40-44	5	1.8	11	4.1
35-39	10	3.6	13	4.8
30-34	3	1.1	17	6.3
25-29	21	7.5	19	7.0
20-24	23	8.2	22	8.1
15-19	20	7.1	24	8.9
10-14	25	8.9	25	9.2
5-9	55	19.6	38	14.0
0-4	89	31.8	82	30.3
Totals	280		271	

[161] Complete Population Total 551

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

TABLE 8

162
361

AGE STRUCTURE AND SEX COMPOSITION
OF BARAMITA AIR STRIP POPULATION, 1971

	male	percent of total male	female	percent of total female
70–74	1	.6	1	.6
65–69	2	1.1	2	1.3
60–64	5	2.9	1	.6
55–59	5	2.9	3	1.9
50–54	2	1.1	1	.6
45–49	4	2.3	3	1.9
40–44	4	2.3	9	5.7
35–39	4	2.3	6	3.8
30–34	3	1.7	8	5.0
25–29	16	9.2	15	9.4
20–24	11	6.3	13	8.2
15–19	13	7.5	16	10.1
10–14	17	9.8	21	13.2
5–9	33	19.0	22	13.8
0–4	54	31.1	38	23.9
Totals	174		159	

[161] Complete Population Total 333

TABLE 9

AGE STRUCTURE AND SEX COMPOSITION FOR SATELLITE SETTLEMENTS POPULATION, 1971

	male	percent of total male	female	percent of total female
75 and over	1	.9	1	.9
70-74	1	.9	0	0
65-69	1	.9	1	.9
60-64	0	0	1	.9
55-59	0	0	0	0
50-54	4	3.8	0	0
45-49	3	2.8	6	5.4
40-44	1	.9	2	1.8
35-39	6	5.7	7	6.2
30-34	0	0	9	8.0
25-29	5	4.7	4	3.6
20-24	12	11.3	9	8.0
15-19	7	6.6	8	7.1
10-14	8	7.5	4	3.6
5-9	22	20.8	16	14.3
0-4	35	33.0	44	39.3
Totals	106		112	

Complete Population Total 218

162 of children occurs throughout the segments of this population. The
*177 Air Strip population of 333 has 164 or 49.0 percent under ten. The
remaining population of 218 in the satellite settlements includes 117
under ten. This is 53.7 percent of this portion of the population.
As is apparent, the increase in population size and the change in
reproductive pattern responsible for it have occurred commonly among
the Upper Barama River Carib population.

163 With regard to the current reproductive pattern, a married state
[885] continues to be common for all adults of reproductive age. Also,
[183] [585] there are no restrictions on the sexual activity of married couples,
[834] and the practice of couvade which rendered a father inactive in all
[846] ways for a few weeks after the birth of his child is being abandoned.
[178] Extramarital sexual encounters are common among all ages. Neverthe-
[839] less, young women become pregnant for the first time usually between
[843] the ages of eighteen and twenty-two. After this, they have about
twenty-five reproductive years during which a woman tends to give
birth to a child every twenty to thirty months.[12] According to this
pattern, every fertile woman has the potential to reproduce about
[595] twelve to thirteen children.[13] The women in monogamous as well as
polygynous unions tend to realize this potential. Soljen de Gonzáles
[114] (1966) has suggested that long term, intensive lactation may supress
[853] ovulation. Although the interplay of behavioral and physiological
factors may be complex, the reproductive results in this case are
clear.

162 In the general ratio of women to children in the total population,
there are eighty-two women between the ages of twenty and forty-four,

162 and 171 children in the age category of four years and under. Of
course, this discounts incidences of mortality as well as the passage
163 in and out of these age categories with time. More specifically,
from July 1970 through June 1971, twenty-five children were born to
the segment of the Carib population at Baramita Air Strip. Expressed
as a crude birth rate, this is eighty-three births per 100 population.
Expressed as a general rate of birth,[14] in this case the ratio of
births to women between ages twenty and forty-four, this is 490.3
161 births per 1000 women. At this rate of growth, coupled with the
current negligible rate of mortality, this population will double in
size about every ten years or until limiting factors intervene.

163 The reproductive histories of the women at Baramita Air Strip
*177 allow a closer focus on this new reproductive pattern. Among this
segment of the population, sixty-three women have borne children.[15]
The reproductive histories of fifty-nine of these women were collected
and are presented in Table 10. The age categories selected are under
twenty-five, twenty-five to thirty-nine, forty to fifty-four, and
fifty-five and over. Organized in this manner, it is clear that the
reproductive careers that occurred after 1940 are quite different
from reproductive careers that did not. The women in the younger age
category, forty to fifty-four, show clear evidence of the new reproductive pattern of twenty to thirty month intervals between births.
The oldest woman in this group is estimated to be fifty-one.
[464] Accordingly, all of these women began reproducing after the availability of employment and market opportunities with the mining
[439] companies.

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

TABLE 10

REPRODUCTIVE HISTORIES OF THE CARIB WOMEN AT BARAMITA AIR STRIP

163
*177

	number of children ever born	number of surviving children	percent of total births
Women under 25			
1.	1	1	.4
2.	1	1	.4
3.	1	1	.4
4.	1	1	.4
5.	1	1	.4
6.	1	1	.4
7.	1	1	.4
8.	1	1	.4
9.	1	1	.4
10.	1	1	.4
11.	1	1	.4
12.	2	2	.7
13.	3	3	1.1
14.	3	3	1.1
15.	3	3	1.1
16.	3	3	1.1
17.	4	4	1.4
18.	5	3	1.8
		(sub total	12.7)
Women 25-39			
1.	1	1	.4
2.	1	1	.4
3.	2	2	.7
4.	2	2	.7
5.	2	2	.7
6.	2	2	.7
7.	3	1	1.1
8.	3	3	1.1
9.	4	3	1.4
10.	4	3	1.4
11.	4	4	1.4
12.	4	4	1.4
13.	4	4	1.4

TABLE 10 - Continued.

	number of children ever born	number of surviving children	percent of total births
14.	5	5	1.8
15.	5	5	1.8
16.	5	5	1.8
17.	6	3	2.1
18.	6	4	2.1
19.	6	5	2.1
20.	6	6	2.1
21.	6	6	2.1
22.	6	6	2.1
23.	8	6	2.9
24.	8	6	2.9
25.	8	7	2.9
26.	8	8	2.9
27.	9	4	3.2
		(sub total	45.6)
Women 40-54			
(40-44)			
1.	8	8	2.9
2.	10	9	3.6
3.	11	4	3.9
4.	13	12	4.6
(45-54)			
5.	12	10	4.3
6.	13	11	4.6
7.	14	10	5.0
		(sub total	28.9)
Women 55 and Older			
1.	4	2	1.4
2.	4	4	1.4
3.	4	4	1.4
4.	5	5	1.8
5.	6	5	2.1
6.	7	5	2.5
7.	7	5	2.5
		(sub total	13.1)

163 *177 The number of children ever born range between four and seven to those women who are fifty-five or older. The range is eight to fourteen for the women between forty and fifty-four. In other words, the seven women fifty-five and older have had a total of thirty-seven children of which thirty survived to adulthood. To date, the seven women forty to fifty-four have had a total of eighty-one children of which sixty-five survive. And some women in this younger age group have not ceased reproducing. The women in this category are subdivided into those forty to forty-four and those forty-five to fifty-four so that further reproductive potential is evident. The average is 5.3 children ever born with 4.3 surviving to adulthood for the women fifty-five and older. For the women forty to fifty-four, the average is 11.6 children ever born with 9.3 surviving. This is more than a doubling of the number of births as well as those children surviving.

The 1960 Government census provides a check on the age group of women fifty-five and older. At that time, these women were forty-five and older. Birth records collected at that time are reported in Table 11. The same pattern of a greater number of births to younger women is apparent.

842 [889] [278] 847 Concerning a popular knowledge of contraception, ignorance for the most part is expressed by both men and women. It is known that older women can identify a small leaf and a vine which boiled together and administered as a drink is supposed to render a woman permanently sterile. No one is reported to have used this measure. An effective method, infanticide, is practiced.[16] This may occur with a young

[TEXT CONTINUED ON PAGE 71

TABLE 11

NUMBER OF CHILDREN EVER BORN TO WOMEN, 1960*

163

Number of Children	Women under 45	Women 45-64
no children	32	2
1 child	19	1
2 children	16	2
3 children	20	1
4 children	13	5
5 children	16	2
6 children	7	5
7 children	4	2
8 children	6	-
9 children	1	-
10 and more children	4	1
Totals	138	21

---

*table compiled from page 11 A-31 of the 1960 Government Census

847 This may oocur with a young
mother with an insecure relationship with the father or a child that
[848] is not her husband's. Also, a poor subsistence situation may inspire
[511] a woman to neglect or kill her infant. From the confidences expressed,
there have occurred about five cases of infanticide over the last ten
842 years. Aside from these measures, some women have expressed desires
to limit the number of children they produce but profess a lack of
163 knowledge on how to do so. With every fertile woman approaching the
fulfillment of a potential to reproduce twelve to thirteen children,
the implications for accelerating population growth are apparent.
[657] Also, with medical attention and other government assistance, the
[165] number of children who survive has increased.

163 Over the last forty years, the reproductive pattern of the Upper
*177 Barama River Carib population seems to have responded to changes in
178 economic conditions. There is no evidence to demonstrate that this
population was ever in any long period of equilibrium with regard to
its size, or well regulated by cultural practices to maintain it below
175 any direct relationship to fluctuations in local food resources. On
731 the contrary, it appears that this population previously underwent
conditions of famine from time to time. King (1968:16) reports a
drought for Guyana every thirteen to fourteen years. Although there
are no direct records kept for the Upper Barama River area, there are
[657] indications of periodic local food shortages. In the six years
previous to the establishment of development programs at Baramita
Air Strip, the Government was called upon twice to send relief food
packages to the Caribs not directly involved in mining. However,
by this time, the total population was influenced by the mining

175 economy. The most suggestive insight into a longer familiarity with
731 conditions of famine comes from popular stories. Cannibalism and
[266] other drastic measures in times of subsistence crises are a pronounced
[261] and recurrent theme.

168 It would appear that the behavioral measures designed to limit
population have been practiced mainly during times of subsistence
stress. Decisions regarding population control were probably made by
168 the mother alone relative to her own circumstances.[17] The net result
163 was a relatively limited rate of reproduction for the total population.
These solutions were abandoned as subsistence stresses were alleviated
*177 by the availability of external resources. Since the introduction of
163 employment and other market opportunities and government subventions
511 after 1940, the Upper Barama River Carib population has not been subject to fluctuations in local resources. Even those segments of the
population not directly employed have been affected. The point to
emphasize is that external resources need not have been constantly
available to the total population to affect the reproductive pattern
of the total population. Only some access to external resources
conveyed through regional networks of exchange needed to be available
during times of subsistence crisis.

NOTES

175 [1] It is improbable that the exact history of the current Upper
Barama River Carib population can be established. Schomburgk, during
162 his surveying of the North West District in the 1840's, found Akawai
114 as well as Carib settlements on the Barama River (1848:359-363).
Gillin, of course, found only Carib settlements in 1932-33 and suggests
that the Caribs usurped the Akawai position in the area. Gillin re-
[173] cords a local tradition that the first Carib ancestors migrated from
around the head of the Corentyne River to the Barama River and concludes that the ancestors of the Carib population had been in the area only for about 200 years (1936:113).

During the 1970-71 field work, it was discovered that several male
162 Carib ancestors with significant numbers of offspring in the current
166 population had migrated into the Upper Barama River area from the
Pomeroon River area. Some had done this to escape the widespread in-
fluenza epidemic after World War I. Also, at least some Caribs
[173] currently maintain that according to tradition, the first ancestors
to populate the Upper Barama River area came either from Venezuela or the Cuyuni River area. In any case, the question of these origins does not pertain to the analysis being developed.

000 [2] Carib nicknames remain in use (Gillin 1936:77-78). Individuals
[551] guard the privacy of these names to different degrees. Western names
are also used. In addition to a chosen first name, the father's first name is usually taken as a last name. Thus Manuel Jacob's son is called Francis Manuel.

[3] In addition to nine obvious Carib settlements in the Upper Barama
[103] River area, Gillin includes the location of "John's Settlement" and "Old World" with no indication of their nature (1936:2). Their names highly suggest mining camps of some sort.

Also, Gillin reports the abandonment of two settlements, Massewah (same as Maswakai) and Korotoko (1936:125,135), which were subsequently reinhabited. In consideration of all of these factors, the estimated figure of ten inhabited settlements appears to be appropriate.

[4] The Upper Barama River Caribs explain that the Carib name for
[103] this settlement is Sewalipialu and that the abbreviation Sawari is used with non-Carib people. The shorter name, consistent with Gillin's usage, is maintained here.

[5] Gillin later revises this estimated range to seven to seventy individuals (1936:98), but the first more conservative estimate of settlement size appears to be more appropriate for the Carib settlements in the Upper Barama River area.

[6] It must be pointed out that the Carib people recognize a dis-
[361] tinction between the group of settlements in the upper section and
the lower section of the Upper Barama River. They refer to the former
[103] as Barama Top Side and the latter as Barama Bottom Side and claim
[197]

000
[361] a difference in language spoken by these two groups of people.
[103] However, all such Carib language distinctions are being rapidly lost
[197] as the language is undergoing modification with the increased cen-
tralization of the population and reliance on English.

*[177] [7] Baramita and Baramita Air Strip are two separate settlements.

[8] This number was depleted by thirty-two. These people recently had gone to Matthew's Ridge. Also, the entire population of Anama, thirty-two persons, had gone with them. At this time, nineteen from In Time had gone to Matthew's Ridge as well.

[166] [9] This common size may represent a decrease in the mobility of the Carib population among different remote settlements as reported by Gillin.

[10] An old man and wife, too decrepit to travel, were located at Piai.

[11] Data for this necessarily diachronic perspective on the popu-
[127] lation sizes are available from a variety of sources. These include
Gillin's census data (1936), government census estimates and records,
reports of the Malaria Eradication Programme, voting registration
lists, and population data collected in the Upper Barama River area
during the 1970-71 field work. The diversity of these quantitative
[163] reports presents several problems. First of all, the Caribs do not
record their birth dates. Nor do they place any emphasis on remembering how old any individual is. Consequently, all recorded ages are estimates made by the observer. Some age data were collected by the nominal categories of adult and child. Furthermore, with varying purposes for collecting population data, territorial units have not been consistent. In different enumerations the Upper Barama River area has been aggregated with portions of adjacent territory. Although these data limitations underscore the conditions of less than laboratory control involved in studying human behavioral adaptations, they do not preclude inquiry.

[12] Among the Carib women at Baramita Air Strip this pattern appears
[184] to be particular to each woman and not related to seasons or other
cyclical events.

Kloos reports a similar pattern for the interval between births for the Maroni River Caribs of Surinam. In this instance, women are tending to reproduce a child every thirty months over a period of thirty years (1971:102).

[13] Of course, this calculation does not account for twins or other
multiple births. Among the Carib women at Baramita Air Strip, two
[845] have given birth to twins which are discriminated against in no way.

000

[14] One general fertility rate is a ratio of total births to total female population at reproductive ages (Spiegelman 1969:254-255). This contrasts to specific fertility rates which consider socio-economic or other demographic characteristics.

[15] Three women over thirty years of age are apparently sterile. They are not included as, obviously, for them there is no reproductive potential.

[16] Polgar, as well, has suggested that infanticide and abortion are outstanding in importance in reproduction control among populations with a subsistence-based economy (1972:206).

[17] Woodburn (1968:243) also suggests the importance of individual and family decisions in the practice of abortion and infanticide.

IV

MARKET OPPORTUNITIES: REGIONAL NETWORKS OF EXCHANGE

*177 Over time, the subsistence economy of the Upper Barama River
438 Caribs has been supplemented by various regional markets. As a
439 consequence, the common material exchanges that serve the Upper
Barama River Caribs as a population have changed. An increasing
[182] extralocal involvement in regional networks of exchange has been
added to a local adaptation to the rain forest, and new resources
have been made available to this population.

175 During Gillin's study in 1932-33, subsistence resources were
182 derived primarily from the natural environment. The similar nature
of the local adaptations of the Carib settlements dispersed along the
[628] Upper Barama River corridor has been discussed. There was no apparent
[438] basis for specialization and trade among settlements. Within each
175 settlement, material property was individually owned. A man owned his
421 clothing, field, house, hunting and fishing equipment, canoe, tools,
and the game he caught (Gillin 1934:335). A woman owned her clothing,
implements for working in the field and house, including pottery and
basketry (although basketry was exclusively made by the men in their
household). All tools were usually manufactured by the individual
owning them or someone in their household. Within settlements, food
[621] was distributed, tools were shared, and assistance rendered in the
activities of making a living in the bush.

*177
439
[412]
[415]
[175]

Throughout the time period under consideration, commercial trade goods have been incorporated, mostly by way of substitution for their local equivalent. Axeheads, cutlasses, knives, iron griddle pans, cotton cloth, and shotguns reached the population in varying degrees at the time of Gillin's study (1934:332). These trade goods did not lose their popularity. They have been added to by other external resources and their quantity and availability have been increased.

[163]
[161]
[511]
[621]

Eventually, a flow of external goods and services into the Upper Barama River area has resulted in an increased birth rate and an increasing population size, an improved standard of living, and changes in the social organization of the population.

*177
175
443
[484]

However, markets have been introduced and controlled by external agents. As has already been explained, the Upper Barama River Caribs do not have easy access to regional markets. They do not travel to transact regional exchanges. Rather, they have depended on the opportunities provided by non-Carib middlemen who reside in the Upper Barama River area and who have good access to the limited transportation and communication facilities. As characteristic of the conveyance of regional exchanges into remote areas, market opportunities have been highly personalized. This was characteristic of the early period of porknocking activities and the existence of the gold

[657]

companies. Personalized market networks continue to be associated with government programs and services at Baramita Air Strip.

*177
195
437
439

Market Opportunities Provided by the Early Gold Seekers

The earliest regional exchanges reported for these Caribs involved

*177 food. Such exchanges were realized with the early prospectors.
175 Provisions, especially cassava and meat, would be traded for salt,
437
439 tools, tobacco, glass beads, and also money. Occasionally, parrots,
monkeys, waracabras, and other pets were traded to these porknockers.
Exchanges would occur more or less by chance. A porknocker might
[809] wander into a settlement and wait until the bashful residents had
recovered themselves sufficiently to come out of hiding and deal with
him. There was little bargaining. Rather, each party approached the
*177 exchange as a nonrecurring opportunity. When prospecting became
175 more familiar among the Caribs, private ownership was recognized in
423 gold creeks (Gillin 1934:335). The individual who discovered a
[432] specific creek was considered to be the owner. He could sell it,
usually to a porknocker who came.

*177 Eventually, Carib men exchanged short term periods of labor for
175 trade goods. Often this work was done for a specific object. Guns
437 which could be purchased over the counter in Georgetown were espe-
464
439 cially desired. An Amerindian would often be asked to cut down a
large field and build a house for such a payment. However, as Gillin
reports (1936:131), Caribs were not always so easily induced to work.
The men of Sawari refused employment by a prospector as they felt his
trade goods were too meager. The Carib men had to desire the goods
to be traded and also be assured of actually being paid and not ex-
poited. It was some time before individual proknockers with their
recurrent trips to the Upper Barama River area were able to count on
help from specific Caribs. Even longer periods of trust were necessary
before these Caribs agreed to work in return for specific trade goods

*177 the porknocker would bring on his next trip from Georgetown.
175 437 However, relations with porknockers remained as transient as the
464 porknocking operations themselves.

439 In short, these early opportunities were of a windfall nature.
*177 Neither porknocker nor Carib was economically bound to the other.
175 437 Thus, these were associational relationships. With the establishment
439 of trust, both the porknocker and Carib cooperated for mutual benefit.
If a porknocker abused an Amerindian, he and often others would no
longer work for this person. The reputations of Amerindians were also
important. These early, individualized exchanges served to bring in
trade goods which were incorporated into the existing subsistence
[511] pattern of the population. However, it was not until the presence of
the mining companies that market opportunities were localized and of
a sufficiently permanent nature to affect the local Carib subsistence
routine.

Markets Introduced by the Gold Companies

*177 Population data suggest that there are significant changes in the
175 nature of reproduction among the Carib population in the time periods
163 511 before and after 1940, when mining companies were first established
in the Upper Barama River area. A more precise investigation of the relationship of the local population to new market opportunities introduced by the gold mining companies is in order. It is not assumed that there is a definable equation between the quantity of trade goods reaching this population and an increased rate of birth. The process of adaptation to these new markets does not appear to be

*177 175 163 511 that simple. Rather, guns and iron tools substituted for tools fashioned from bush materials tended to increase the efficiency of the exploitation of the rain forest. In addition, the more permanent availability of clothing, medical care, and food supplies tended to override any cyclical changes in local subsistence resources which would affect population size. Moreover, at no time were detailed records kept of the quantity of trade goods which reached this population as a consequence of the activities of gold mining companies, and at the onset of field work, these patterns of exchange no longer existed. Nevertheless, these regional networks of exchange and the involvement of the Carib population can be reconstructed.

*177 175 464 All the mining companies introduced some exchange opportunities. Only Baird's company, which persisted for over thirty years, significantly involved the local population. Only Carib men were employed as the work included carrying loads, hunting, cutting fields, and mining activities. Also, a majority of the adult men in the Carib population was never employed at one time. Yet, the employment opportunities resulted in channels for the dispersion of exchanges to a wider section of the population.

During the initial establishment of the companies, the Caribs did not comprise a reliable labor force. Laborers were brought in from Georgetown. While the Axel Johnson Company was still in operation, Baird and his partner had some problem with the desertion of coastal laborers. As a big company, Axel Johnson paid higher wages. Of course, the competition ceased when the Axel Johnson Company was closed. There occurred other problems in relation to the number of

*177 175 464 laborers from the coast. A 1953 list of Baird's workers at Millionaire includes a mechanic, engineer, manager, foreman, and twenty-six laborers from the coast. Coastal workers still predominanted a year later when they held a strike for higher wages. They were granted their request. A few years later, other coastal workers held a second strike. By this time, a number of Carib men were in steady employment. With this reserve of local laborers, the coastal men were sent away. Manganese operations were opening up at Matthew's Ridge and these coastal men went there.

This reliance on Carib manpower was accomplished gradually. Many Carib men were anxious about working in the mine shaft. However, in time, Caribs gained confidence and skills and eventually totally replaced miners from the coast. Permanent employment was available for a core of workers. Jobs were available to others with changes in production or with the undertaking of special projects such as the road built between the air strip and In Time in 1964. At the height of his activities in the middle 1960's, Baird employed about fifty Carib men. At the time, this was a little less than fifty percent of the adult male Carib population. Later, Baird cut to thirty-two workers before finally phasing out his mining enterprise. In contrast to previous employment opportunities which briefly separated a man from his subsistence schedule, these mining opportunities with Baird resulted in a very different routine among the Carib men.

[241] [466] Specifically, Amerindians at the mine eventually left aside subsistence farming. Baird imposed a work schedule on a weekly calendar. The more permanent day work was from 6:30 to 11:00 in the morning and

*177 175 from 12:30 to 4:00 in the afternoon, Monday through Saturday. Over
464 time, salaries varied. During the last years of the company, men were
[466] usually paid about $4 a day. At this time, men also earned the
[465] equivalent of $4 a day for job work for which the terms were more
flexible. Considerable inputs of human labor were included in all
aspects of mining activities; cutting loggings, feeding a ball mill,
turning a winch, shoving a wheelbarrow and so forth. When operations
were of such a nature that the shaft had to be continually pumped of
water, shifts worked around the clock. During these times, if a
worker failed to come, Baird would take his place. As a standard
[466] procedure, Baird would suspend a worker for two weeks if he failed to
turn out for a scheduled work period. In the Upper Barama River area,
remote from transportation and communication networks, the need for a
reliable labor force was thus stepped up with an increased industrialization
of the mining enterprise.

Baird had a need for a limited number of workers, but increasingly,
he needed workers who were experienced, dependable, and could be
called out for any emergency or change in work schedule. On the other
hand, permanent workers, without any other immediate subsistence
resources on which to rely, sought assurance of job security. Throughout
the existence of the mining enterprise, there were fewer jobs
*177 available than men wishing to be employed.[1] A situation was promoted
175 in which Baird and the Carib workers made mutual demands, characteristic
466 of the generalized but asymmetrical economic reciprocity conveyed
in the personal relationships between a patron and his clients.

*177
175 Baird further sought to secure Carib clients with special benefits.
466 He tended to the emergencies of his workers and their families day and
[484] night. From time to time, Baird made trips to Georgetown possible by
allowing workers to ride one way free on the charter flights which
[871] left the air pool and later the air strip empty. In 1966, he started
the first school. It was built at In Time and staffed by a teacher
Baird privately paid.

*177 Baird's trade store was operated primarily as a service for the
175 workers. Local provisions were bought and sold at the same price.
443 This policy was used also with many foods flown in from Georgetown.
43
[434] The thirty-two or more workers who earned about $4 a day had an income
[241] of approximately $1200 a year. As these workers had only small gar-
[461] dens and their wives and other members of their households enjoyed a
great deal of leisure, most provisions were purchased. Cassava bread,
the staple, sold for 16¢ a disk which is about a half inch thick and
two feet in diameter. Local fish and meat sold for about 40¢ a pound.
Rice, sugar, salt fish, canned milk, tinned sardines, and other foods
were available. The store stocked a variety of implements for hunting,
fishing, farming, and doing household chores. It also stocked ciga-
rettes, matches, soap, cloth lengths, and manufactured clothes. Baird
[452] extended each worker up to $100 credit and arranged special purchases.
These included guns[2] and radios. One Carib man bought a portable,
[454] manually operated Singer sewing machine in this manner. As there was
no opportunity for investment, a worker would hide away somewhere
about his house any cash he did not immediately use to make purchases.

*177 The trade store was the main vehicle for the involvement of the
175 remainder of the population in regional exchange. With the establish-
438 ment of Baird's enterprise, there was a constant call for local foods
443 which the trade store stocked. Caribs not employed at the mine were
then able to sell these foods on a more or less planned basis. The
residents of Aranka, Baramita, and later the Air Strip, did this
regularly. Caribs in the more remote settlements made more infrequent
trips. However, the quantities required were limited. No special
fields were cut nor special crops planted. Part of the regular
subsistence production was used for these exchange purposes. Also,
there operated informal consignment agreements. When a supply of
meat, cassava, plantains, yams, or whatever ran low, individual men
were invited to bring these to the store. Often no money changed
[437] hands. Rather, small accounts were kept. In addition to exchanges
centralized by the trade store, some exchanges occurred directly
175 between Caribs. The prices used were those at the trade store. Also,
*177 for a short time, the missionaries contributed to the market oppor-
797 tunities in the area by occasionally hiring a few laborers, by buying
439 some local handicraft items, and by selling food and clothing.

*177 Before the mine closed in 1969, one other development occurred
175 which further involved this population in regional exchange networks.
657 A local administrative structure, devised and implemented by the
622 Ministry of Local Government, has been imposed on Amerindian popu-
lations to promote national political integration.[3] Amerindian
[666] offices were first introduced among the Upper Barama River Caribs with
an election held at In Time in October 1967. From among four

*177 candidates who were unemployed at the time, one man was selected by
175 the largest number of votes to serve as Captain for a four-year term.
657 Other candidates for the Captaincy became Councillors. Of these
622
[465] offices, only the Captaincy is a salaried position. It receives
$150 a month.[4] The duties of these offices, which have been more
clearly defined with the government settlement project at Baramita
Air Strip, have provided a basis for the redistribution of the
Captain's salary to a wider section of the population. However, the
office of Captain among the Upper Barama River Caribs does not differentiate
the officeholder in any sustained fashion from the rest of
[464] the population. Similar to other forms of local employment in the
Upper Barama River area, the Captaincy is not a vehicle to gain a
control in regional markets or to accumulate deployable forms of
capital. ¶

*177 Previous to the establishment of the mining companies, the
175 dispersed Carib settlements tended to be closed with regard to obtaining
361 and sharing local subsistence resources. This pattern was apparently
438 little disturbed by the first trade goods brought by the mobile
porknockers. However, the money economy and the centralized channels
of regional exchange introduced by the mining companies markedly
[511] altered Carib subsistence. External resources came to be critical to
the subsistence patterns of the expanding local population, and
settlements became more centralized around their source. In 1969,
Baird's mining activities were directly supporting 171 individuals
or 33.9 percent of the total Carib population at the time. Located
nearby at Baramita, Aranka, and the Air Strip, another 190 individuals

*177 or 37.7 percent of the total population frequently sold provisions at
175 the trade store. This segment of the population also participated in
361 the ancillary regional exchange networks provided by the missionaries
438 and the Amerindian Captain. The remaining 28.4 percent of the popu-
[484] lation, the 143 individuals in the more remote settlements, made more infrequent trips to the trade store at In Time. Either through informal trade among Caribs themselves or the centralized channels created by the trade store, mining activities involved the entire local population in a common network of regional exchanges. In turn, this network was changed by the abandonment of In Time.

Regional Exchanges Centralized at Baramita Air Strip

*177 The cessation of mining activities late in 1969 again altered the
175 subsistence patterns of the local Carib population. That segment of
464 the population dependent on employment at the mine and maintaining no
511 farms was faced with a subsistence crisis. The opportunities for the remainder of the population to sell provisions was greatly reduced.
*177 During the spring and summer of 1970, the Government began introducing
175 programs and services to sustain this population. The new govern-
464 mental offices have already been detailed (see Figure 3). The
651 resources conveyed to the population through these new channels remain to be discussed. As data are available only for the first year of these new programs at Baramita Air Strip, this must remain a preliminary report.

*177 The first year at the Air Strip was one of general parsimony. Job
182 specialization among the Caribs was almost eliminated and everyone
[463] returned to rain forest subsistence.

000 returned to rain forest subsistence. There was no household without
*177
241 a large farm, but it was some time before new farms became productive.
*177 In addition, all of the Carib men were anxious to gain some money
464 income to buy commercial items they had come to consider a need.
However, there were few employment opportunities and the demand for
[182] local products was very limited. Although maintaining a subsistence
[361] relationship to the rain forest, the population nucleated around the
air strip as much as possible to make use of the few remaining
resource opportunities, including health care, food programs at the
school, and whatever was available by way of casual wage work.

More men sought work than that available. Government station hands were hired. Work involved carpentry, cutting grass, filling water tanks during the dry seasons and other tasks. For a time, four men had these jobs. By spring 1971, only one man was left in this employment. Also, occasionally men were hired on project work, including stumping out areas, lopping down secondary bush at the extreme ends of the air strip, and building a clinic under one of the govern-
[465] ment residence houses. The pay for this work was about $4 a day, and
[466] the work schedule was from 6:30 A.M. to 2:30 P.M., allowing the men
time to farm or hunt during daylight hours.

Baird's private activities also entailed some employment opportunities. He was considering a partnership which would take him to the Potaro River for gold mining. He made a three week prospecting trip there in November 1970 and took along six of his former workers.

Other opportunities for work at the Air Strip involved carrying loads for the Medical Ranger and the Agricultural Field Assistant.

*177 464 Periodically, they made field trips to the more remote settlements, including those in the headwaters of the Barima River. Also, more extensive employment was available with the Malaria Eradication Officer. He visits the area about every six months and employs about ten men for periods up to six weeks. [465] The pay for carrying loads for the Agricultural Field Assistant was about $4 a day. Those men employed by the officers of the Ministry of Health received about $6 a day.

In short, jobs were temporary and limited, similar to the early employment with transient porknockers. In contrast to the casual participation in the early opportunities, the limited jobs available at Baramita Air Strip constituted an unemployment problem. The Upper Barama River Caribs before and after thirty years of mining activities were operating on a very different economic basis. The commercial goods and a steady source of provisions provided by employment had come to be a desirable alternative to maintaining a farm in the bush. Nevertheless, due to the impermanence of employment, a Carib who becomes separated from a subsistence relationship to the rain forest is in a precarious position, as witnessed by the subsistence crisis experienced by the former miners and their families when In Time mine was closed. The remaining regional markets available at Baramita Air Strip were specifically intended to augment an agrarian subsistence among the Upper Barama River Caribs.

*177 657 241 439 654 A large number of men were involved in subsidized agricultural development. In the summer of 1970, the first field was cut. About four acres of black-eyed peas were planted. From the harvest, 350

*177 657 241 439 654 pounds were received by the Guyana Marketing Corporation in Georgetown. From the sale of this harvest, $90 was returned to Baramita Air Strip and distributed among the ten or twelve men who had worked on the project. By the fall of 1970, a larger project subsidized by the Government was under way. From among the previous miners, ten were paid $4 a day to cut fields, plant, and later harvest crops. One man became discouraged before the harvest, and his field was turned over to another. One large field was cut alongside the air strip. Eight men were each apportioned a strip about seventy-five feet by 500 to 550 feet. Two other miners developed a separate field of about five acres which they worked together. The seeds were given by the Government and had to be returned from the harvest. The sale of the remainder of the crop to the Guyana Marketing Corporation was the farmer's profit. Peanuts and red beans were planted, and families were encouraged to help the men in the fields.

In addition to these specific projects, other Carib men were
encouraged to grow cash crops with the government loan of seeds. At
first, two men participated. They each planted peanuts. The combined
March and April 1971 harvest from all of this subsidized farming
amounted to 1416 pounds of peanuts, which sold for $481.44, and 374
*177 657 262 pounds of red beans, which sold for $88.75. Also, in April and again
in May of 1971, rations for cooperative farm projects were introduced
at Baramita Air Strip. These rations included wheat flour, vegetable
oil, and a mixture of cornmeal, soy bean flour, and powdered milk
called bulgar wheat. This food[5] was distributed among about twenty-
five men from the Air Strip as well as the satellite settlements
where others were cutting fields for cash crops.

000 where others were cutting fields for cash crops.

*177 657 241 439 From time to time, the Agricultural Field Assistant arranged for bunches of bananas and plantains to be sent to the Guyana Marketing Corporation in Georgetown. Two Carib farmers were involved in this enterprise. From November through December, 1970, 607 pounds of bananas, 353 pounds of plantains, and thirty-five pounds of apple bananas were received by the Guyana Marketing Corporation from Baramita Air Strip. This returned a payment of $58.83.[6] Later, another man was encouraged to bring out a crop of limes from Baramita settlement for shipment to Guyana Marketing Corporation.

*177 657 322 439 Still another new market opportunity involves handicrafts. Under the encouragement of the Welfare Officer for Amerindian Handicraft and Artifacts, the Project Officer looked into the local possibilities. He developed the manufacture of decorative bow and arrow sets. Smaller versions of the bows and arrows in use were designed. Both bows and arrows were about three feet long. One bow and two arrows were mounted on small wooden stands. Craftsmanship was put at a premium, and only the fancier washiba and leopard woods were used. A variety of arrow points for spearing fish and hunting game animals and birds no longer generally in use were revived. Men were paid between $3.00 and $5.00 per set, depending on the quality and the market in Georgetown. Having gathered all the materials, it generally took a man from two to three days of steady work to complete a set. Mostly only residents at the Air Strip made them, and any set that did not meet the Project Officer's standards was not accepted. At the end of the first year, several hundred of these sets had been

*177 sent to Georgetown. A few times when the Welfare Officer for Amer-
657 indian Handicraft and Artifacts had a definite buyer, she made a
322
439 special request for the large functional bows and arrows. However,
this opportunity affected only one man who made these especially well.
*177 At other times, a few pots, matapis, the cylindrical basket used to
657
439 squeeze prussic acid out of manioc, and sifters, used to grate the
285 ~~cylinder~~ of dried manioc pulp, and other basketry work were sent to
412 Georgetown.

*177 Another episode involving regional markets concerns tropical fish.
657 For a few weeks from the end of April and into May 1971, Aenus Catfish,
226 both speckled and plain, were collected. These fish are about an inch
439 and a half long and can be easily caught by hand or net in the stream
beds during the dry seasons. In early April, letter correspondence developed between the Project Officer and the proprietor of an aquarium supply company in Georgetown. The Project Officer was offered $50 per thousand of these fish, and he appointed a man with the help of his adult son to initiate collecting catfish. The first Friday, 650 catfish were sent to Georgetown in open tins via Guyana Airways. The men were paid 3¢ per fish, and the rest of the income was used in the care and storing of these fish. The proprietor paid the air freight costs. More generally men were encouraged to collect catfish, and residents from the satellite settlements as well as the Air Strip were involved. Usually on Friday morning, men would bring their catch to the air strip well before the plane came. Each man would bring as few as twenty-five fish which brought 75¢. The Project Officer would supervise the counting of fish and the loading of filled tins onto

*177 the small aircraft. As is common in the handling and transportation
657 of tropical fish, many would die. Up to as many as ten percent of
226 the fish would be lost in transit to Georgetown, and the proprietor
439 cut the price to 4 1/2¢ per live fish he received. After a few
thousand catfish had been sent to Georgetown, tropical fish operations
were suspended.

*177 With this proliferation of small market opportunities, a money
438 economy continued to develop in the Upper Barama River area after the
436 closing of the mine. A government trade store is now located at
*177 Baramita Air Strip and operated by the Project Officer. During
657
443 1970-71, the minimal stock of tinned sardines, salt fish, flour, rice,
438 sugar, cigarettes, matches, ammunition, cutlasses and knives, cloth
439 lengths, pants and shirts, school exercise books and pencils was
sometimes depleted by delay in the shipment of supplies from George-
*177 town. More often, Caribs did not have the cash to make purchases.
436 Money tended to be a more specialized means of exchange. Only it could
be used to purchase commercial goods. As a consequence of the limited
[182] circulation of money among this population, there occurred a renewed
*177 reliance on bush resources for food and tools. Secondary networks
438 for the exchange of local provision foods greatly disappeared. A
[464] marked separation of those employed and unemployed during the mining
economy was lost. In contrast, a diversity of limited opportunities
*177 to directly participate in regional exchanges was available more
438
439 generally to the population at Baramita Air Strip. In this manner,
[657] the regional economy among the Upper Barama River Caribs has been
supported by the national government since the closing of the mine.

*177 Since Gillin's time, miners, missionaries, and government projects 438 have all combined to provide this population with market opportunities. 439 Wages and external resources have come to be central in the problem of making a living in the bush. However, Caribs exercise little or no control of the market opportunities, nor do they have the means to travel to reach other markets. To this extent, the Upper Barama River Caribs have remained detached from managerial or entrepreneurial roles in their participation in regional exchanges. The conveyance of *177 market opportunities into the Upper Barama River area has remained highly 437 dependent on non-Carib middlemen. There are no intervening regional 439 market networks with adjacent populations. Rather, exchange is directly with individuals who have come into the frontier from a center of commercial and governmental activity, Georgetown, and bring with them transportation and communication ties back to this center. With the considerable flux of individual middlemen and the market opportunities they have brought into the area, specific sources of regional trade have been marked by their impermanence. Thus, the Upper Barama River Caribs have increasingly become a population encapsulated within and dependent upon the national society.

*177 The relationships Caribs have had with middlemen reflect the highly 43 fluid nature of regional exchanges. In the face of the obviously uncertain markets conveyed by the porknockers, Caribs remained uncommitted to these resource opportunities. In contrast, the men from the mining companies stood in a position of increased resource demand and control of the regional transportation and communication networks. [571] The more established nature of mining company enterprises promoted

*177 patron-client relationships in which Carib clients could also make
43 limited demands on their employer. Generally, the degree to which
[571] *177 these new opportunities were available to Caribs was reflected in a
43 neglect of bush agriculture. Over time, this neglect proved to be
241 precarious. These markets dissolved with the cessation of gold
mining, leaving former miners and their families with no immediate
[622] relationship to a source of provisions. The new governmental offices,
[571] including that of Amerindian Captain, and officeholders do not have
a record of sufficient permanence and assured access to stores of
external resources to aggregate around them individuals in client
positions. Although prominent among the new markets, cash crops have
not replaced subsistence crops to any substantial degree. During the
period of field work, no Carib was dependent for survival on the cash
crops he grew. Rather, this activity was pursued in addition to sub-
sistence farming and the income was used as pocket cash to make pur-
chases among the commercial items at the trade store. In this
manner, Caribs were not critically dependent on networks for the
regional exchange of such refractory commodities as agricultural
produce.

*177 In short, regional markets have been impermanent. Even so, they
438 have made available wages and external resources that have attracted
241 the participation of the Carib population. Caribs can take part in
these market opportunities and hedge against their insecurity only
in so far as they maintain some level of bush agriculture. This is
possible without restriction, as throughout the various human
occupations in the Upper Barama River drainage basin, there is no

*177 438 241 [464 511] indication that the natural environment has been permanently degraded in any manner. However, some Caribs have neglected bush farms; specifically, those who regularly worked as miners at In Time. With the rupture of their source of provisions, the former miners and their families were faced with a subsistence crisis when In Time was closed. [657] As an emergency measure, government subventions were introduced to sustain these people while they re-established bush farms. This was not a simple matter of waiting for the first crop. Although the manioc cultivated by the Upper Barama River Caribs is usually mature in nine months, it was commonly harvested as early as four months by the residents of Baramita Air Strip during 1970-71. Immature manioc obviously yields less calories than the mature crop, and a deficit [511] [182] in future crops was established. Also, a closer scouring of the natural environment for all sources of food, however minute, and, inevitably, hunger ensued among the Carib population at Baramita Air Strip.

In their remote rain forest environment, there have been no opportunities among the local Carib population to acquire resource banks which might include livestock, real estate, local enterprises such as shops or other mechanisms to divert, store, or otherwise manipulate the resources conducted through regional networks. Even agricultural fields, a primary local resource, are dependent on the labor extended to develop them and are eventually reclaimed by the forest. This underscores the lack of any other basis to hedge against the insecurity of external resources except to continually spend the labor to maintain farms in the bush. In the same manner, there is

*177 In the same manner, there is
438 no basis for the differentiation of individuals in the Carib popu-
241 lation on any sustained basis. Instead, the utility of external as
[463] well as local resources has remained in the immediacy of their
availability to the local Carib population.

*177 Throughout the changes in the regional networks of exchange in-
438 volving the Upper Barama River Carib population, some economic dimen-
177 sions have remained unchanged. The nature of material property and
421 its personal ownership are as Gillin describes them. A man owns his
clothes, farm, house, hunting and fishing equipment and other tools,
and the game he catches. A woman owns her clothes and tools for
working on the farm and in the house. Nowadays, many commercial
goods are among the property owned by men and women, and cash income
*177 has been used to obtain them. Although men's activities have changed
462 to include employment and other market endeavors, women have remained
in their domestic domain. Even though some Carib men have been
separated from a subsistence relationship to the rain forest, they have
not been separated from the household context which provides a male-
female partnership for returning to and maintaining a subsistence in
the bush. This continuity is apparent in the organization among the
Upper Barama River Caribs to exploit the different resource situations.

NOTES

000 [43] [1]Although the market opportunities have been limited in the Upper Barama River area, they are not much improved at either the Cuyuni River or Matthew's Ridge where segments of the population have gone. Matthew's Ridge, a mining settlement with single men from the coast, is viewed as a particularly predatory environment by the Carib men, especially those with more than one wife. Men are wary to take their [593] wives along and equally wary to leave them unattended anywhere else. [361] As external resources have gathered this dispersed population a substantial number has elected to remain in the Upper Barama River area and organize around the sources of opportunity there.

[435] [256] [2]A rifle costs about $150 and a license must be obtained.

[3]Guyana became an independent nation in 1966.

[4]Amerindian Captains' salaries are based on population size. The Upper Barama River Carib Captain receives the highest salary which is for a population of over 500.

[465] [5]In addition, food was distributed to settle a request of a year's standing that payment be made to fifteen men who had helped clear the sites for the government buildings at the Air Strip. Other government subventions reached this Carib population. At [747] Christmas and other times, care packages from the Canadian Red Cross were sent into Baramita Air Strip by the Amerindian Welfare Officer and contained clothes, school items, toys, and powdered milk.

[436] [6]This figure included 6¢ a pound for bananas and plantains and 3 1/2¢ a pound for apple bananas.

V

SOCIAL ORGANIZATION FOR SUBSISTENCE AND EMPLOYMENT

*177 Although the resources for subsistence and the organization in-
592 volved in exploiting them have changed, the household has remained
the primary cooperative economic unit among the Upper Barama River
[423] Carib population. There is no land tenure, no accumulation of capital
[471] in any form, and no inheritance of any consequence. Thus, household
[428] composition and the relationships among households have conformed to
the immediate situations affecting the problem of subsistence.

Subsistence in the Rain Forest

175 For the 1932-33 period, Gillin reports that a household was com-
592 posed of a man and his wife or wives and their unmarried children.
[737] These children include their own and ones that have been adopted. A
relative from the older generation might be absorbed as a dependent.
[586] Divorce or death could dissolve a household, the remaining members
[768] joining existing households or forming new households with available
[585] partners. There seems to have been universal marriage for everyone
of reproductive age, making the household coterminous with the
family (1936:80).

175 Households were settled in their cultivated fields. A house
342 structure was commonly a pole frame covered with a roof thatched from
various palm leaves. Dimensions varied from six to over thirty feet

175 (Gillin 1936:31-9). As a house became dilapidated, it would be used
342 for cooking or storage purposes, and a new one built to support the
hammocks of the various members of the household.

175 Preparatory to a marriage, a young man was required to cut a
584 field and build a house nearby and pass a hunting test given by the
[582] bride's family. This appears to have been a formality that finalized
an agreeable relationship among all concerned (Gillin 1936:74-75).
175 At first, the young husband resided with his wife's family. During
591 this time he cooperated actively with his wife's father and other
[606] male relatives still in the household. Expressive of the temporary
nature of the extension of the family, the young man rendered his
father-in-law deference, usually not talking to him directly but
[851] through his daughter. This period of matrilocal residence generally
would end soon after the birth of a first child (Gillin 1936:97).
The newly established household was then an autonomous unit.

175 As for the cooperation among households, this principally involved
476 men's activities, farm cutting, hunting, canoe building, house con-
571
621 structing, and the like. In these instances, cooperation is not
[462] necessary, but rather expedient. As a result, patterns of cooperation
lacked permanence and explicitness. Friendships among men seem to
have been the basis for recruiting work partners. Women cooperated
as well, but their friendships had no consequences in social organi-
[592] zation (Gillin 1936:136). The adult men moved their households about
freely to enter into associations with other men from households in
175 the vicinity. In general, cooperation developed among "brothers,"
476
593 actual siblings and parallel cousins (Gillin 1936:97), and these
605 kinsmen tended to settle near each other.
[591]

175 kinsmen tended to settle near each other. At times such as during
476 the field days held for poisoning a creek for fish, all the men and
593 women in one location would cooperate (Gillin 1936:11-12). Gillin
605 [621] reports that the extent of mutual cooperation among "parallel kins-
men" made these stronger bonds than that between a man and his son-
in-law (1936:97), and aggregations of their households composed a
settlement such as Savari.

175 At the time Gillin visited Savari, it was composed of three clear-
592 ings or aggregations of cooperating households. The largest of these,
621 John Miller's clearing, included seven adult men (1936:117-125).
Miller, about forty, was prominent among them. He had had a previous
[595] marriage but currently had a new young wife and was acquiring her
younger sister as well. His father-in-law was an old man, David.
Two of Miller's widowed sisters had recently attracted into the group
two brothers, Henry and Samuel. Their other brother, Colombus, with
his child bride was also present. Two young men, Joseph, a son-in-
law of David, and Joseph, a son of David, completed the group of men.
175 All of these had apportioned plots in a field Colombus and Miller
476 had originally cut and David and his son Joseph had enlarged. The
621 temporary partnership in fields was dissolving as the newcomers to
Savari were establishing fields of their own (Gillin 1936:134).
Other mutual assistance such as hunting and canoe building was con-
ducted between various men in this clearing and those in the other
clearings on an individual basis according to the inclinations and
the sway of influence to which each man was subjected.

175 John Cook was probably the same age as Miller (Gillin 1936:125-8).
571 Several years ago upon the death of his first wife, he was attracted
159 to Savari out of his friendship with Miller. He consequently took a
621 kinswoman of Miller as a wife.[1] As Cook became established in Savari,
he attracted men in his own right. As he did so, his friendship and
cooperation with Miller waned. Expressive of this rift is their dis-
[527] continued participation in a common *cassiri* spree,[2] the one form of
public activity including ritualized behavior. During Gillin's visit,
Cook's group ceased attending Miller's *cassiri* sprees but held their
own. In addition to Cook, there were three men in his clearing.
These included his half-brother Daniel and his half-sister's husband,
Henry Daniel, who is also a fourth brother to the group of three in
Miller's clearing. Also, a man named John, about thirty-five, had
moved his household to Savari on the basis of his friendship with
[476] Cook. All of these men together had cleared a field and had the use
of respective plots in it.

The third clearing was that of a single man, Edwin, who was also
[476] a contemporary of Miller and Cook. Edwin farmed by himself. However, indifferent to the enmity between Miller and Cook, he assisted both of them at times with other tasks such as constructing a *cassiri kanu* and a woodskin boat. Gillin suggests that Edwin's failure to attract a group around him is due to his lack of leadership qualities (1936:127-128). It is also clear that Edwin at this point in time does not have the same advantage as Miller and Cook regarding marriageable female relatives with whom to negotiate these satellites. His oldest child was a male about sixteen. His other children were daughters under twelve years of age.

000 daughters under twelve years of age.

175 As is apparent, a man's position in a settlement was in part the
557 result of his human capital of female relatives, sisters and daughters,
621 and how he used these to attract men around him. However, a
602 son-in-law was only a temporary dependent. In contrast, the associational
bonds that developed between cooperating parallel kinsmen
had no definite time span. There occurred varying degrees of cooperation
as well as numbers of men involved, the only limit to the relocation
of a household being the several months needed for a field
to begin to be productive. However, in the context of the cooperation
among related kinsmen, a general pattern emerges with regard to
a man's life career. Except for old David, all the men in Savari
were younger than Miller, Cook, and Edwin. These three men, at about
age forty, were no longer dependents as the younger men were, but
were established in their own clearings. They were having different
success attracting young men according to the contingencies of available
[737] female relatives as well as their personal qualities. When
their energies and human capital were becoming exhausted, they again
would be dependent members in a settlement, much as old David.

175 Such dispersed settlements, which fluctuated in size from about
621 fifteen to fifty individuals, constituted the largest social unit
(Gillin 1936:141). Within settlements, there was no differential
[756] access to local subsistence resources. Individual men who were
[754] shamans or sorcerers privately owned knowledge and magical skills,
but this had little effect on their participation in the subsistence
000 routine. A headman was recognized in each settlement (John Miller in

175 A headman
622 was recognized in each settlement (John Miller in
Savari), but his authority rested on his influence. Aspects of personality, the number of relatives, as well as physical strength were factors in the choice of headman. Although the duties of headman lacked definition, for the most part they involved coalescing group
175 opinion and action. All of this was done informally. Group action
629 would be taken against individuals who threatened the pattern of
sharing resources and rendering assistance within the settlement. Ostracism, exile, or, more rarely, violence would be employed (Gillin 1934:337).

175 At this time, the Upper Barama River Caribs constituted an indig-
[648] enous population within a British colony. In this colonial environ-
[701] ment, there was no organization among these Caribs for war or defense
[622] which would compel leadership (Gillin 1934:344). Dispersed in the
175 rain forest, remote from the center of European power, there was no
628 other basis for unity among this population. Before extensive regional trade and a money economy were introduced by the mining companies, these dispersed settlements tended to be closed with regard to patterns of obtaining and sharing subsistence resources. Exchanges
*177 among settlements involved shifts of personnel. Increasingly, the
621 boundary of the resource sharing social unit has become constricted
within the larger, more stabilized settlements around centralized networks of regional exchange.

Organization for Gold Mining

*177
592 In addition to centralizing settlements, employment and other
464 market opportunities provided by gold mining activities from 1940 to

*177 1969 have had consequences in the interrelationships among Carib
592 households. Cooperation within households developed as men were
464 first employed by porknockers. A young boy would accompany his
father on such employment and to some extent share the uncertainty
of his father's employment. Usually the father collected and managed
the wages earned by his young son. Also, young unmarried brothers
would work together during these early opportunities. However, this
is still a recruiting of work partners from the existing household
unit.

*177 As job opportunities became more substantial, the composition of
593 the household changed. The cooperation between father and son was
464 maintained as was that between father and son-in-law. This partner-
606 ship persisted beyond the son's or son-in-law's youth to his position
as a married adult, himself a father of children. Employment oppor-
[602] tunities held these trans-generational pairs together. The instru-
mental nature of friendship among brothers, real and classificatory,
*177 diminished as household members became allied by employment. The
476 general emphasis on cooperating partners of the same age shifted to
464 a trans-generational recruitment pattern. In contrast to extra-
household, associational work relationships, the new work opportuni-
ties promoted father-son and father-son-in-law cooperative bonds. As
males secured employment, they tended to disassociate from the
*177 pattern of sharing resources with a group of cognatic kinsmen. Thus,
464 employment opportunities of any duration acted to stabilize partner-
592 ships within a household, and as a consequence, the presence of a
son-in-law was no longer indicative of a transitional phase and a

*177 464 592 structurally nascent family. Rather, the family became extended and the son-in-law or son and their wives and children remained as part of the family group.

*177 464 592 621 The residence pattern during the period of Amerindian employment by Baird reflects these strategies. During November 1969, just before In Time was abandoned, a survey of the residents in the area is available. In the close vicinity of the mine there were eight clearings. Three more were located nearby at Big Creek. The adult male residents and their kinship and work relationships are presented in Table 12. The kinship affiliations of all of these men are detailed in Figure 12.

In 1969, the residents of one clearing had recently moved to the Air Strip. This was the household of Baird's father-in-law. It was composed of an older man, sixty-five, and his son-in-law, thirty, and his son, twenty-five, along with their wives and children. These men had been steadily employed in Baird's mining activities.

Due to the difficulties which later closed the mine, temporary work had not been available for some time. Thus, the men remaining in residence had been steady workers for Baird. There is one exception. This is the largest clearing at Big Creek (cluster 11 in Figure 12), which is composed of a man, his two sons-in-law, and his son. Of this group, some were steady workers. Others were sporadic workers who maintained a subsistence cultivation in the bush. At this point in time, the larger number of men in one clearing also adds to an ambiguity with regard to identifying the household boundary and is indicative of transient aspects of organization common with fluctuating resources.

TABLE 12

RESIDENCE AND KINSHIP AND WORK RELATIONSHIPS AMONG MINERS, 1969

#177
591
602
464
593
621

Residential Group	Estimated Ages of Men	Relationships	Years of Employment with Baird
(In Time)			
1.	55	father	over 15
	25	son	over 6
2.	75	father	previously ca. 10
	40	son	ca. 4
3.	65	man	never employed
	35	son-in-law	ca. 16
4.	50	father	ca. 15
	30	son	ca. 2
	25	son	ca. 6
5.	60	father	ca. 12
	30	son	ca. 10
	20	son-in-law	unemployed
6.	50	father	ca. 15
	30	son	ca. 10
	30	son-in-law	ca. 10
7.	30	man	ca. 8
	20	son-in-law	unemployed
8.	35	man	ca. 12
	25	brother-in-law	ca. 6
(Big Creek)			
9.	45	man	ca. 16
	20	son-in-law	unemployed
10.	25	Baird's son	steadily employed
11.	50	father	previously ca. 1
	30	son-in-law	ca. 10
	25	son-in-law	ca. 2
	20	son	previously ca. 1

601
602
621
*177
693
496

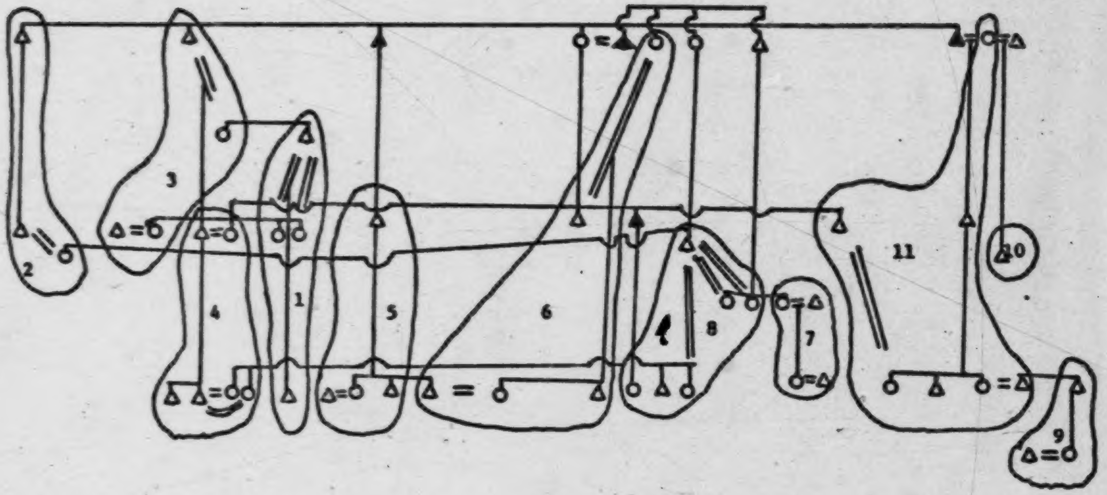


Figure 12. Kinship Relationships and Cooperative Boundaries among the Carib Men Residing near In Time and at Big Creek, 1969.*

---

*Only the most immediate kinship relationships are detailed, although wider affiliations add much more complexity. Accordingly, wives are only represented when they are links in the relationships among these men.

*177 592 464 [621] Among the other men in these households of miners, those not employed are either old enough to be retired from this work or too young to have begun an employment career. Thus, a household included up to three adult men in different stages of involvement with employment opportunities. The trans-generational recruitment of work partners is clear. As a pattern, the older men who had been employed for a substantial number of years attracted to their households sons and sons-in-law. The older men would seek employment on their behalf. An exception to father-son and father-son-in-law recruitment pattern is the man with a work partnership with his wife's younger brother (cluster 8 in Figure 12). In this case the age difference is still apparent. As a pattern, the younger partner was brought into an employment opportunity at an age when he was a dependent in an established miner's household. [571] The younger man became another link in the client relationship the older man had established with Baird. Any further elaboration with regard to the pattern of life cycles of men or households under the circumstances of employment in mining was terminated with the cessation of In Time mine in 1969.

In any case, this household organization was not dictated by the nature of the work, but rather by the manner of securing and maintaining the work.[3] [602] As is abundantly apparent from Figure 12, Baird's workers were close kinsmen. Nevertheless, with the limited number of jobs available, there was no opportunity for these men to use kinship ties to form any independent corporate organization. *177 464 476 571 Rather, employment opportunities in the mining tended to eliminate economic cooperation between households by introducing an external broker between them.

000 broker between them. At times, rivalry was evident when a worker had
*177 been suspended for two weeks, as was the standard practice for fail-
464 ure to turn out for a scheduled work period. The suspended man would
466 have his wife make a batch of cassiri, and he would hold a spree for
578 other miners who often suspected the plot but could not resist the
527 invitation. In turn, the guests would be too inebriated to work, and the first miner would be immediately reinstated as constant workers were needed to maintain the mining enterprise.

*177 From the pattern of social organization attending subsistence
464 farming in the rain forest, father and son and father and son-in-law
602 ties have been solidified by strategies to secure employment. In
[593] this case, previous nuclear families with ties of assistance among a
[606] wider kin group, effective organization for exploiting the bush, were changed by the circumstances of the availability of employment. However, the record of impermanence regarding work opportunities and other markets has contributed to a general lack of explicitness regarding work partnerships and residential practices among the Upper Barama River Carib population during the last forty years. The organization of the population with no access to steady mining employment also has been affected by the increased availability of regional exchange opportunities. This is best detailed in the discussion of the situation during 1970-71.

*177
Resettlement around Baramita Air Strip

361 The current residence situation among the Upper Barama River Carib population has resulted from the pattern described by Gillin,

*177 361 [476] 121 the retention of father and son and son-in-law bonds among workers, as well as by the centralization around the air strip. Temporary cooperation to aid relatives in settling in a new location is also a factor in the current residence situation. At this time little analysis can be made of the life cycles of family groups or of individuals. Data are available only on the first year of the resettlement around the air strip, a time of considerable change in the extent and nature of the external resources available in the Upper Barama River area. Family organization is responding to these new circumstances.

*177 464 The population in the satellite settlements, Baramita and Aranka, has had a different experience with the regional economy. Among these segments of the population, men have had little or no employment. The headman of Aranka worked about five separate one-year periods in his youth with porknockers. Another man from Aranka worked for two years at In Time while living with his father. Now he is one of the headman's sons-in-law. Also, men from Aranka have been employed from time to time by the Malaria Eradication Officer. For the most part, the populations in these settlements have maintained a subsistence [438] adaptation to the rain forest. Their livelihoods have been supplemented by selling small amounts of local provisions for commercial items at the trade store.

*177 592 621 The residence patterns in these satellite settlements are somewhat different and they also differ from that characteristic of the households at the Air Strip. At Baramita in 1971, there were five clearings. One was inhabited by a man and wife and their children. Two others were nuclear families recently extended by the addition of

*177 sons-in-law. The fourth consisted of a man, about fifty, his wife
592 and children and his old father and mother. Lastly, one man, also
621 about fifty, has had his father-in-law with two adult sons and all
[622] their wives and children move into his cultivated field. This last
residence situation had persisted for about two years when the Amer-
indian Captain called attention to it as a case of excessive ex-
ploitation.

[595] Aranka, on the other hand, is outstanding in that one man maintains five wives who have had, to date, thirty-six children. He is the center of one large clearing with his various fathers-in-law and sons-in-law around him. In addition, two new clearings of Karisho people were being established at Aranka in the spring of 1971. One was inhabited by a nuclear family, another by a nuclear family extended by the wife's old father and his crippled wife. A young man who is deaf and dumb and moves about from relative to relative was also living in this last clearing. He is the old man's brother's
[166] son. To some extent, this residence pattern is the result of the
abbreviation of the continual movement of households due to the
advantageous location near the center of external resources, and
the market opportunities at this center have tended to dissolve the
ties of general reciprocity between men in different clearings as
will be discussed at a later point.

The residence situation at the Air Strip is more complex than that in either satellite settlement. The households of previous miners and households from the more remote areas have moved there. Currently, there are twenty clearings. Their general locations

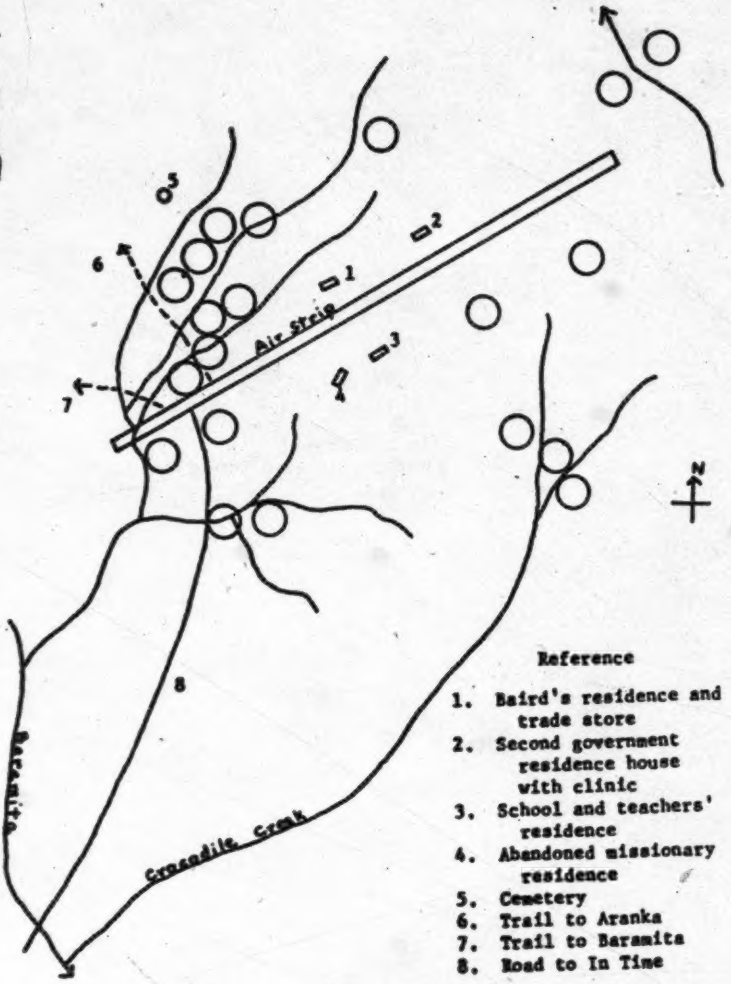
*177 592 621 around the air strip are diagramed in Figure 13. House structures[4] continue to be located in cultivated fields in which the resident adult men have apportioned sections. The composition of these clearings illustrate different stages of a man's career recruiting sons-in-law, different employment experiences, and different temporary cooperative arrangements. Accordingly, these twenty clearings can be divided into three categories.

The most simple of these categories consists of a single household comprising two generations. The husband-father is mature enough so that he is no longer a dependent in another's clearing. Also, he has not been a partner in an employment situation in the last several [595] years. He has either one or two wives. In either case, his children are not yet adults. However, with no other context for recruiting [582] assistance, the oldest daughter in these households becomes a wife comparatively young, as early as seven years of age. The son-in-law [591] joins the household. For brief periods, the young couple may reside temporarily with the boy's parents. There are five examples of this type of household.

The second type of household at the Air Strip is more complex and is represented by nine cases. In each case, there are three generations present. Yet the household is still coterminous with the clearing. In seven cases, employment, either sporadic or more permanent, has resulted in the extension of the family to include either an adult son or son-in-law and his wife or wives and children. Other adult sons and daughters have left the household. Daughters in the third generation may be young wives themselves, but they are

[TEXT CONTINUED ON PAGE 114]

102
361
487
491
*177


Air Strip
1
2
3
4
5
6
7
8
Baramita
Crocodile Creek
N

Reference

1. Baird's residence and trade store
2. Second government residence house with clinic
3. School and teachers' residence
4. Abandoned missionary residence
5. Cemetery
6. Trail to Aranka
7. Trail to Baramita
8. Road to In Time

Figure 13. Sketch Map of Baramita Air Strip Settlement. Carib clearing = ○

*177 592 621 not mature enough to have children. Two other clearings are inhabited by households of this type that have moved in from the more remote settlements. In both cases, the families of a man and his son-in-law have moved as a unit to the Air Strip.

The third category is still more complex. In these cases, larger numbers of people are present which contributes to the ambiguity of [166] household divisions. Four of these larger groups of relatives in a common clearing are clearly the result of the abandonment of the mine and the occurrence of new resources at the Air Strip. Kinsmen are temporarily allied for the move to the Air Strip from the mine as [596] well as from the more remote areas. These kinship groups are laterally extended. In two cases they are composed of the nuclear families of brothers as well as their sons and sons-in-law. In two other cases, the sons and sons-in-law of a single man and all their [484] wives and children are residing together. Among these groups, component units of a man and his wife and children often left on extended trips either to a more remote settlement or to Matthew's Ridge. Usually, this was because agricultural fields around the air strip were not yet productive.

*177 592 624 621 The two remaining examples in the third category are the clearings of the current Captain and the prominent Councillor. The Councillor is about fifty and has three wives of different ages. His household includes an adult son-in-law and son and his wives and [609] children. In addition, an old porknocker long resident among the Upper Barama River Caribs lives in the Councillor's clearing.
600 Holding office has served to extend the household of the current

Holding office has 115
*177 served to extend the household of the current
592 Captain. He is about fifty and has two wives, one of whom he married
622 as a widow and one who is very young. Extra adult members have been
621 added by including a daughter of the older wife, and a daughter and
grandaughter of the Captain's stepmother. They have all brought a
[428] son-in-law into this extended household. In this last case, as in
all these residential arrangements, there is no promise of inheritance
or other legacy beyond the situation to hold extended households
together.

*177 External resources have resulted in centralized settlements with-
592 in which kinship groups residing in different clearings tend to be
621 closed resource-sharing social units. For the most part, the clear-
[596] ings are inhabited by single households composed of extended families.
In no case are individuals or young, childless couples living alone.
Co-residence may be considered an index of extended cooperation and
*177 sharing of resources. Men who reside in the same clearing have part-
476 nerships in cultivated fields which along with hunting and gathering
and occasional employment are the major sources of subsistence since
the closing of the gold mine. The pattern of more extended reciprocity which existed prior to the availability of external resources has been changed. No longer is there any marked occurrence of the exchange of assistance among groups of men who are brothers or parallel cousins. In the cases in which adult brothers are in co-residence, usually their father is also present. Men in much more circumscribed relationships; i.e., father, son, son-in-law, now tend to cooperate in securing subsistence from local as well as external resources. Within the pattern of trans-generational recruitment,

*177 the dependent partners are identifiable. This contrasts to the
476 associational nature of the previous pattern of cooperation among
the Carib men.

*177 The increased isolation of the family group resident in a clear-
175 ing has affected the assignment of tasks according to sex. Gillin
462 reports a discrete separation of tasks (1936:3,46,51,71). Men would
hunt and clear fields, construct houses, canoes and cassiri kanus,
and do all basketry and plaiting. Women would harvest cultigens,
gather edibles from the forest, prepare all food, sew, tend children,
and exclusively assist in childbirth while the men were not allowed
in the clearing. Men and women would cooperate [illegible] fields and
poison streams for fish. During 1970-71, men were observed in their
own households engaged in all of those tasks which previously were
allocated to women. For the most part, women's tasks are those which
must be done on a daily basis. Men assisted with the activity when
the females in the household were otherwise indisposed and there was
[844] no wider circle of females to call upon. Men now commonly deliver
their wife's children. Women, on the other hand, were not observed
taking part in any of the men's activities.

*177 Exchanges between people from households in different clearings
437 are now conveyed in terms of immediate exchange. Barter has been
[436] used, but increasingly the exchange of labor, food, or craft items
*177 is conducted with money. Labor assistance, including help in clear-
464 ing and planting fields, building houses and cassiri kanus, and
465 processing cassiri, is paid for either in food or money. Manioc
*177
43 tubers, the prepared cassava cakes, turtles and other bush meat are

*177 43 sold between clearings, and although not conducted through trade store channels, prices are those in use at the trade store. Rates of exchange for food and craft items not carried in the trade store tend to be much more variable. Also, food payments for labor services tend to vary. When money is used, the rate is usually identical with payments made for government employment. The extent of these local [621] transactions is not great. Yet they, along with the absence of general reciprocity, demonstrate the tendency for households in different clearings to be closed with regard to sharing resources. Obviously, there now exists differential access to money or local *177 463 resources on a situational basis. This contrasts to the lack of economic specialization among the population prior to the introduction of the gold mining companies and the more sustained difference among miners and nonminers during the existence of gold enterprises.

*177 476 464 During 1970-71, exchanges for short term labor involved both groups and individuals. The _kaiyap_ or group work day is a recent innovation among the Upper Barama River Caribs. It has only occurred at the Air Strip and has been exclusively attended by Air Strip residents. During the year of field work, few men were sufficiently comfortable with the resources they commanded to exchange days of work with others. Consequently, the _kaiyap_ has taken a special form. Four _kaiyaps_ were held by three men, including the Captain. For each, a group of about twenty men worked during the morning to clear [273] a fie[illegible] They were served _cassiri_ in the field, and after work, they had a meal at the house of the man sponsoring the _kaiyap_. Then, the remainder of the _cassiri_ was consumed in a convivial atmosphere

*177 during the afternoon. The families of the working men would arrive
476 and take part in this cassiri spree. No residue of obligations per-
464 sisted from these group work days.

[622] Also, the Captain used his income and agricultural resources to
*177 recruit men for projects he undertook as officeholder. At times, men
464 were gathered to assist in cutting fields for Carib households newly moving to the Air Strip. The first self-help project in October 1970 involved building school desks and benches. A carpenter who had come to make repairs on the government residence houses stayed on to provide designs for the furniture and to supervise their construction. Every weekday morning for about three weeks, several men would turn out for this work. The second self-help project occurred in January 1971. The abandoned missionary lands were cleared of secondary bush for farms. During the mornings, over a period of nineteen days, the Captain and several other men cut down bush. At the beginning, one man who is a particularly good hunter was provided ammunition to hunt for the rest. Also, the Captain distributed other food from his farm and the trade store. In each case, specific work groups lacked per-
[591] manence. The composition of groups changed every day of these projects. In all cases, the men received some immediate return for their participation.

Smaller groups of men have also been employed by other Caribs. Groups of men from the same residential clearing as well as individuals have been paid to do other tasks, including building houses and cassiri kanus, and clearing fields. Brothers, sons, fathers, fathers-in-law, and sons-in-law not sharing residence have been paid to do this work.

000 this work. With regard to hunting, all the game killed by a partic-
*177 422 ular gun, regardless of the marksman, is considered to belong to the
224 gun's owner. This obtains even if the owner is not along on the
hunting trip. After keeping what he wants of the catch for himself,
the owner of the gun distributes the rest among the hunting party.

*177 The only instances in which women enter into immediate exchanges
432 with other Caribs involve the selling of pots.[5] Prices vary from
$3.00 to $4.00 a pot. The number of exchanges has been small, and
the potter is always the seller. No pots have been sold among the
residents of the satellite settlements. At the Air Strip, two
women have engaged in this enterprise.

*177 The first potter is Anna Abraham, a temporary resident at the
323 Air Strip. She makes her pots in Piai Creek where she has located a
159 reliable source of clay. Male members of her household carry the
pots on their backs to the Air Strip. Her pots are particularly
noted for cracking and leaking, making it necessary for the purchaser
*177 to melt balata over them as a repair. Even so, during the first year
432 of her residence at the Air Strip, she sold nine pots, both *tuluwa*
159 and *tukuwali* varieties. Six pots were sold for the use of different
women in the households of the Captain, the prominent Councillor,
and Baird's father-in-law. The other three pots were sold to her
sister and her sister's daughter. However, there was controversy
regarding the exchange with her sister. The sister's household
claimed they did not have the money to pay for the pot.

*177 Charlotte is the second potter. She is the same person Gillin
159 records as being the youngest wife of the headman of Sawari. Now
323

*177 she is a dependent widow and lives with her two daughters and son-in-
159 law in his father's clearing. Her pots are particularly noted for
323 being lopsided, making them easy to identify. She was the first to
*177 attempt to locate a suitable clay source at the Air Strip. She makes
432 only tuluvas and has sold four at the Air Strip. Three were sold for
159 the use of the mother of the man in whose clearing she resides and
one for his sister.

*177 The only cases in which pots were presented as gifts between
593 clearings involve exchanges between mother and adult daughter. These
431 are actual mother and daughter pairs. Classificatory relatives are
not included. These gifts were made in four cases during the period of observation and are an aspect of the sustained generalized reciprocity between mother and adult child in different clearings. Exchanges between mother and adult son usually involve food. However, these exchanges are not formalized in any way and they do not always occur between specific mother and child pairs.

*177 In sum, the pattern of cooperation among adult individuals resid-
592 ing in the same settlement has been eroded by the introduction of
[621] wage work, other markets, and a money economy. The household composed
of an adult man and his wife or wives and children remains the primary cooperative economic unit. However, the household has been extended in various instances to include the adult son or son-in-law
[476] and their families. The sustained flow of mutual assistance among
a wider circle of kinsmen no longer exists as a common pattern.

*177 There is one exception to this pattern which has relevance only
476 in its situational context. As the miners re-established bush farms,
624

*177 and as others moved to the Air Strip, the prominent Councillor was a
476 pronounced source of agricultural assistance. At one time or another,
624 he helped all households that moved to the Air Strip. To those who
[482] requested it, he would give a wolisha (a large basket for carrying
loads on the back) of manioc tubers or processed cassava cakes.
Clearly, the Councillor was not providing a major portion of subsistence for anyone outside his household. Yet, he was a source of
[235] temporary relief during a time when farms were not yet productive and
other sources of subsistence foods were scarce. Also, the Councillor
made available manioc stalks necessary for planting new fields.
*177 Partly as a consequence of these activities, the prominent Councillor
622 was elected as Captain during the second local election held at the
624 Air Strip in October 1971.
[666]

As he is a long time resident of the Air Strip and had expanded
his already established agricultural fields, the Councillor was able
to make allegiances among the population in this manner. During the
[241] spring of 1971, he had 16.2 acres under cultivation compared to the
incumbent Captain's farms, which amounted to 11.3 acres. This contrasts to 5.8 acres which was the average size of the cultivated fields of the remaining eighteen clearings at the Air Strip. However, this does not represent any sustained differential relationship to local resources. Agricultural fields are not exchanged. Rather, land holding is determined by the labor invested to develop it and remains a resource until it is reclaimed by the forest.[6]

*177 Over time, the size and stability of Carib settlements have
361 changed. Increasingly, the population has centralized around sources
of external resources.

000 of external resources. Larger numbers of people have come to live
*177 near each other without immediate cooperative bonds. Visiting
621 commonly takes place during cassiri sprees which now last a number of
[574] hours rather than the several days reported by Gillin (1936:65).
[273] Among neighbors, contacts depend on the inclination and personalities
[527] of the people involved. This aspect of community life is foreshadowed in the school experience[7] of the children. They are brought together in age categories to learn, play, and form relationships on an associational basis. More permanently settled in centralized locations, the Upper Barama River Carib population has become organized as a local, small-scale society within the overarching national political economy.

*177 However, the resource base on which this population depends
182 remains fluid. For the majority of people, external resources are
[241] not reliable. Thus, agriculture in rain forest soil remains a prerequisite for permanent settlement. The encapsulation of this population relative to transportation and communication networks and the lack of resource-storing mechanisms have already been discussed. As a consequence, the Upper Barama River Carib population utilizes all
*177 resources for the subsistence they provide. Institutional elaboration
592 among this population is absent. Instead, the household, albeit changed in composition in some cases, has remained the primary cooperative social unit. It is the smallest unit capable of securing a livelihood in the ubiquitous rain forest. Such organization has been maintained throughout the flux in regional contacts and external resources. The continued emphasis on the individual within the household context is reflected in the kinship system.

000 household context is reflected in the kinship system.

Kinship

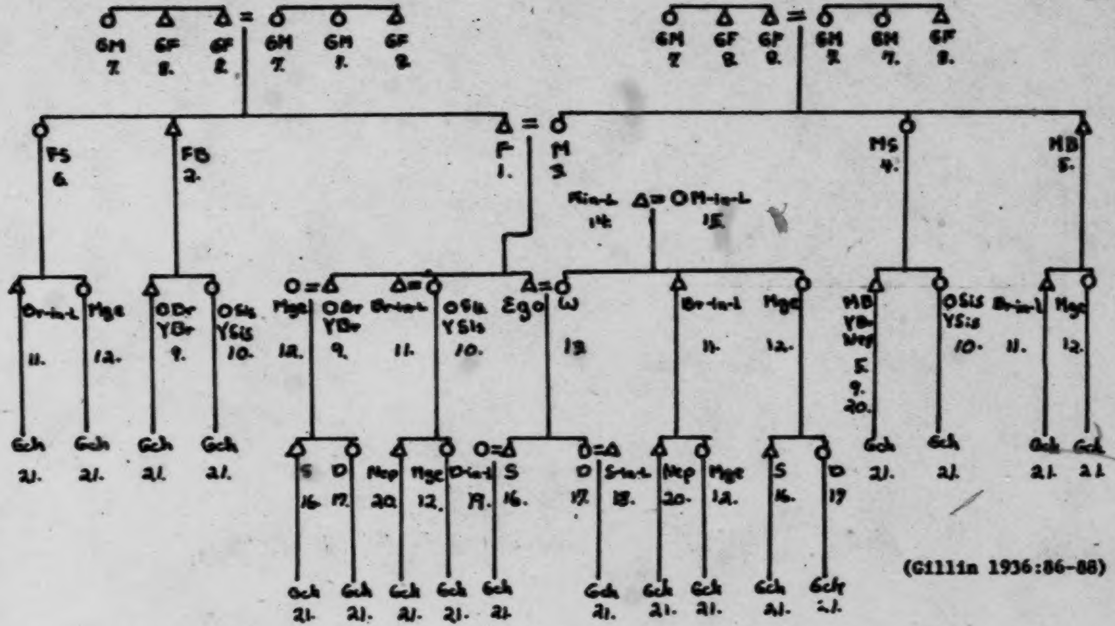
*177
601 Persistence and change in elements of the kinship system are in keeping with changes in household composition and relationships among households. The kinship system in use during Gillin's field work is reported in Figures 14 and 15. Figures 16 and 17 present the kinship system in use during 1970-71. Table 13 compiles the Carib terms used by males; Table 14, those used by females.

601 Basically, this is a cognatic system with Iroquoian features. Categories of individuals in three middle generations, ego's and the immediate ascending and descending generations are identified. Aspects of bifurcate merging are evident in all three of these generations. The terminology extends one more generation in each direction. However, all individuals in the categories grandmother, grandfather, and grandchild are socially identical. There is no [114] further lineal extensions. Although Gillin entertains the possi- [614] bility (1936:90-98), there is no premise for sib or clan organization. [618] Rather, this is a particularly egocentric kinship system. Its major purpose appears to be the categorization of people for each individ- [561] ual. A person's sex and age affect the manner in which related individuals are designated, and the changes in the system of categorization reflect shifts in the patterns of interaction among categories of people.

175
601 The kinship system as reported by Gillin is one particularly suited to operating among a relatively small, endogamous population

[TEXT CONTINUED ON PAGE 130]

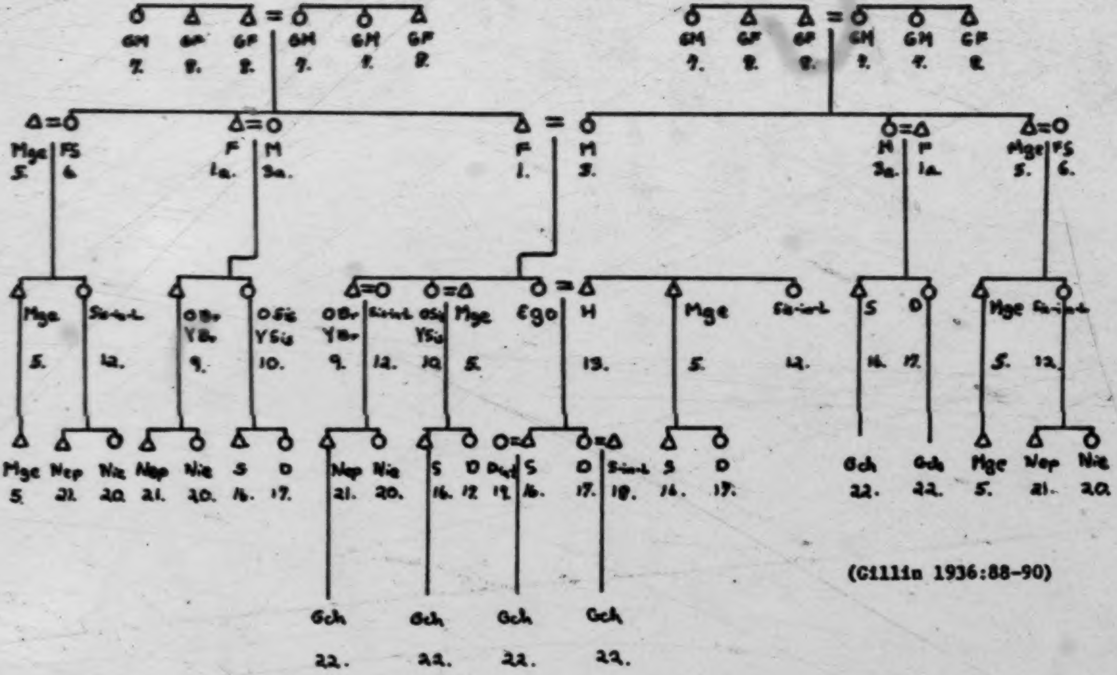
175
601


GM 7.
GF 8.
GF 8.
GM 7.
GM 7.
GF 8.
GM 7
GF 8
GF 8.
GM 7
GM 7.
GF 8.
FS 6.
FB 2.
F 1.
M 3.
MS 4.
MB 5.
F-in-L 14.
M-in-L 15.
Br-in-L 11.
Mge 12.
OBr YBr 9.
OSis YSis 10.
Mge 12.
OBr YBr 9.
Br-in-L 11.
OSis YSis 10.
Ego
W 13.
Br-in-L 11.
Mge 12.
MB YBr Nep 5. 9. 20.
OSis YSis 10.
Br-in-L 11.
Mge 12.
Gch 21.
S 16.
D 17.
Nep 20.
Mge 12.
D-in-L 19.
S 16.
D 17.
S-in-L 18.
Nep 20.
Mge 12.
S 16.
D 17

(Gillin 1936:86-88)

Figure 14. Kinship System, 1932-33. Terms of Address and Reference, Male Speaking.

175
109


GM 7.
GF 8.
GF 8.
GM 7.
GM 7.
GF 8.
GM 7.
GF 8.
GF 8.
GM 7.
GM 7.
GF 8.
Mge 5.
FS 6.
F 1a.
M 3a.
F 1.
M 3.
M 3a.
F 1a.
Mge 5.
FS 6.
Mge 5.
Sis-in-L 12.
OBr YBr 9.
OSis YSis 10.
OBr YBr 9.
Sis-in-L 12.
OSis YSis 10.
Mge 5.
Ego
H 13.
Mge 5.
Sis-in-L 12.
S 16.
D 17.
Mge 5.
Sis-in-L 12.
Mge 5.
Nep 21.
Nie 20.
Nep 21.
Nie 20.
S 16.
D 17.
Nep 21.
Nie 20.
S 16.
D 17.
Dau-in-L 19.
S 16.
D 17.
Son-in-L 18.
S 16.
D 17.
Gch 22.
Gch 22.
Mge 5.
Nep 21.
Nie 20.
Gch 22.
Gch 22.
Gch 22.
Gch 22.

(Gillin 1936:88-90)

Figure 15. Kinship System, 1932-33, Terms of Address and Reference, Female Speaking.

*177
109

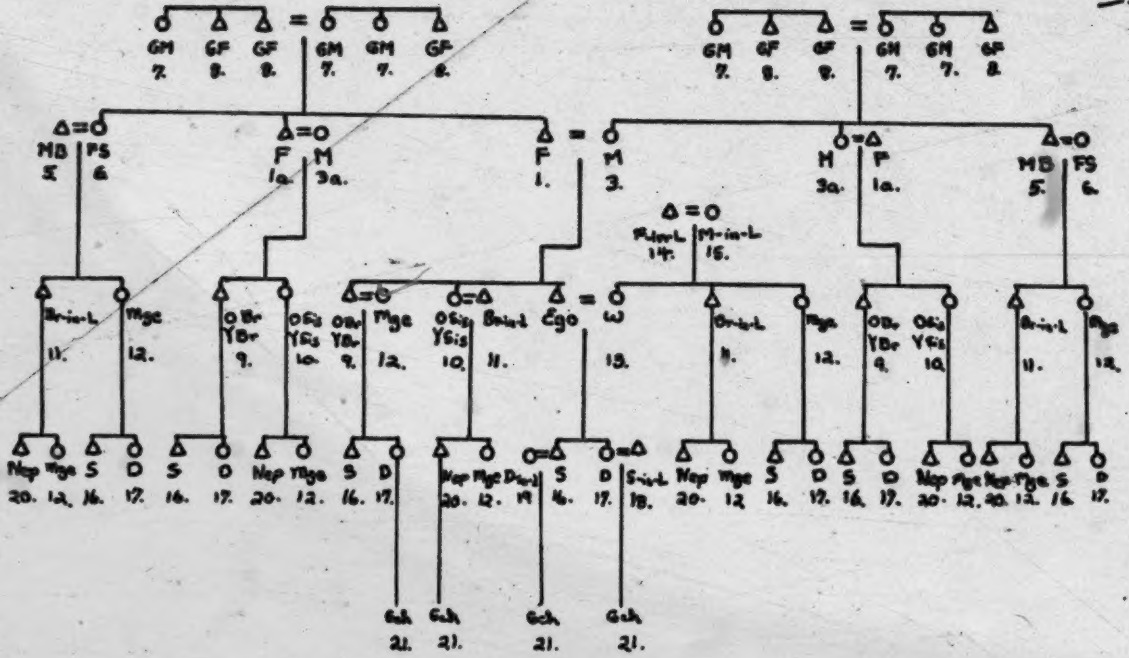

GM 7.
GF 8.
GF 8.
GM 7.
GM 7.
GF 8.
MB 5.
FS 6.
F 1a.
M 3a.
F 1.
M 3.
M 3a.
F 1a.
MB 5.
FS 6.
F-in-L 14.
M-in-L 15.
Br-in-L 11.
Mge 12.
OBr YBr 9.
OSis YSis 10.
OBr YBr 9.
Mge 12.
OSis YSis 10.
Br-in-L 11.
Ego
W 13.
Br-in-L 11.
Mge 12.
OBr YBr 9.
OSis YSis 10.
Br-in-L 11.
Mge 12.
Nep 20.
Mge 12.
S 16.
D 17.
S 16.
D 17.
Nep 20.
Mge 12.
S 16.
D 17.
Nep 20.
Mge 12.
D-in-L 19
S 16.
D 17.
S-in-L 18.
Nep 20.
Mge 12
S 16.
D 17.
S 16.
D 17.
Nep 20.
Mge 12.
Nep 20.
Mge 12.
S 16.
D 17.
Gch 21.
Gch 21.
Gch 21.
Gch 21.

Figure 16. Kinship System, 1970-71. Terms of Address and Reference, Male Speaking.

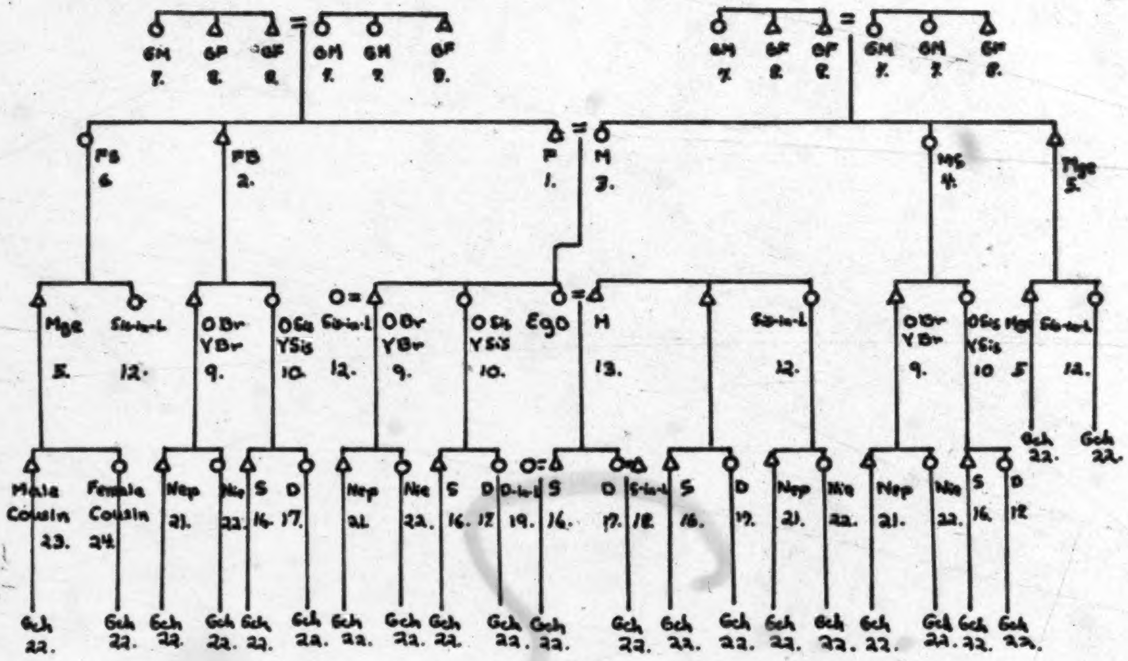

GM 7.
GF 8.
GF 8.
GM 7.
GM 7.
GF 8.
GM 7.
GF 8.
GF 8.
GM 7.
GM 7.
GF 8.
FS 6
FB 2.
F 1.
M 3.
MS 4.
Mge 5.
Mge 5.
Sis-in-L 12.
O Br Y Br 9.
O Sis Y Sis 10.
Sis-in-L 12.
O Br Y Br 9.
O Sis Y Sis 10.
Ego
H 13.
Sis-in-L 12.
O Br Y Br 9.
O Sis Y Sis 10
Mge 5
Sis-in-L 12.
Male Cousin 23.
Female Cousin 24.
Nep 21.
Nie 22.
S 16.
D 17.
Nep 21.
Nie 22.
S 16.
D 17.
D-in-L 19.
S 16.
D 17.
Sis-in-L 18.
S 16.
D 17.
Nep 21.
Nie 22.
Nep 21.
Nie 22.
S 16.
D 17.
Gch 22.

Figure 17. Kinship System, 1970-71. Terms of Address and Reference, Female Speaking.

175
*177
601

TABLE 13

KINSHIP TERMS FOR ADDRESS AND REFERENCE, MALE SPEAKING

	1932-33		1970-71
1. F	papa		papayo
1a. FB	papako	2.	yumuko
3. M	tata		mamayo, tatayo
3a. MSis	tatako	4.	seanoko
5. MB	iyao		ya'oko, yavole, ka'topo
6. FSis	wopui		wopu ko, yaopule
7. GM	pipi		pipi
8. GF	tamoshi		tamosi, teamolo
9. OB	tseo		seo
YB	kami		pije, pide, po'chole
10. OSis	wa'a		wa'a
YSis	mimbo yenatu		yenate
11. B-in-L	pamuko		pamüko
12. Marriageable	takano		teakano
13. Wife	puitu		puete
14. F-in-L	imuru tamuru		tambalacon, ē'mëtamolo
15. M-in-L	imurnote		ë'mënote, ë'mënoyang, puetesano
16. S	imuru		emülü, po'chole
17. D	yemwidye (yemare)		yemuje, yemueale
18. S-in-L	pwarimye		puealë'më
19. D-in-L	parisano		puealesano
20. Nep.	pwatumu		pueatë'më
21. Grandchild	ipwaru		pueale

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

175
*177
601

TABLE 14

KINSHIP TERMS FOR ADDRESS AND REFERENCE, FEMALE SPEAKING

	1932-33		1970-71
1. F	papa		papayo
1a. FB	papako	2.	yumuko
3. M	tata		mamayo, tatayo
3a. MSis	tatako	4.	seanoko
5. Marriageable	iyaoko		yaʔoko, yawole, kaʔtopo
6. FSis	wopuko		wopuʔko, yaopule
7. GM	pipi		pipi
8. GF	tamoshi		tamosi, teamolo
9. OB	wa'ako		wa'aiyo
YB	kamicho		pije, poʔchole, ka'micho
10. OSis	wa'a		wa'a, pwaje
YSis	kami		ma'mio, piche, ka'micho
12. Sis-in-L	yedote		yedote
13. Husband	unya		ünyo
16. S	uimwe		ă'më, poʔchole
17. D	yemwidje		yemuje, yemueale
18. S-in-L	pwarimye		peualë'më
19. D-in-L	parisano		puealesano
20. Niece	pwase		pwase
21. Nep.	pwatumu		pueatë'më
22. Grandchild	ipwaru		pueale
		23. FBSS	pamüko
		24. FBSD	teakano

175 601 [587] to provide personnel for universal marriage and the wider circle of cooperating kin. The practice of the levirate and sororate as well as sororal polygyny (Gillin 1936:92) are consistent with this kinship system in which the identities of members of the nuclear family are merged with specific collateral kin. For both male and female egos, father and father's brother are identical and distinguished from mother's brother. Mother and mother's sister are identical and father's sister is a separate category. For the male ego, parallel cousins are identical with siblings and distinguished from cross cousins. For the female ego, this pattern pertains except for the designation of maternal parallel cousins. These individuals are categorized as the female ego's own children and reflect a provision

175 582 for marriage with mother's brother. However, most commonly, symmetrical cross-cousin marriage was practiced. In the genealogies Gillin recorded, one third of the marriages were of this type (1936: 93). He recorded only two marriages with sister's daughter (1936:95).

With this one exception, the only fictive erosion of generational levels concerns the categorization of marriageable partners. For males, these people are in his generation and the one below his. They include his female cross cousins and sisters-in-law as well as the daughters of his male cross cousins and his sisters' and parallel female cousins' daughters. With the practice of cross-cousin marriage, a particular female may fall into more than one of these relationships. Also, all strangers of the opposite sex and generally of the same age are included. For females, marriageable categories occur in all three middle generations. These are mother's brothers, male

175 cross cousins, brothers-in-law, and male cross cousins' sons. Again,
582 a particular male may fall into more than one of these relationships.
All strange males of approximately the same age are also included.

175 Thus, this kinship system is in keeping with the subsistence
605 organization among the Upper Barama River Caribs for the time period
602 before the introduction of external resources. Adult brothers as well
[476] as parallel cousins tended to render each other mutual assistance and
[593] thus live near each other. With the practice of cross-cousin marriage,
[582] these men tended to marry sisters or women who were parallel cousins
to each other. Thus, a child tended to grow up in the company of his
[768] parallel cousins, who were equated with his siblings. If his actual
[736] mother or father died or otherwise left, they would likely be replaced
by other individuals already in the child's horizon of interaction as
people in the categories of mother and father. Symmetrical cross-
[582] cousin marriage was extended to provide for the contingencies of re-
cruiting marriageable partners in a small population. With regard to
marriage with sister's daughter, this is not a separately designated
category. Rather this person is merged with a much larger category
of marriageable individuals.[8]

*177 The new organizational strategies are apparent in changes in the
601 kinship system. The discontinuation of mutual assistance among men
[476] who are brothers or parallel cousins and a greater longevity of
people have change elements of this system. In the first ascending
generation, father and father's brother and mother and mother's
sister are all separately designated. Previously, father and father's
brother were one identity. Mother and mother's sister were also
merged as one category.

000 merged as one category. With the economic isolation of households,
*177 these people are no longer living and working together. The replacement
[592] of individuals in these categories no longer appears to be a
compelling demand of the organization for subsistence. Mortality has
[165] been greatly reduced by medical programs and external subsistence
[586] resources. Divorce now tends to occur only as a casual event among
[587] very young couples. Consequently, no current data on the practice
*177 of the levirate and the sororate is available. Sororal polygyny does
595 occur. Among the established marriages among the Air Strip population,
there are thirty-eight monogamous unions. Of the sixteen
plural marriages consisting of a man and two wives, twelve are cases
of sororal polygyny. There are two groups of a man and three wives.
[601] In one case, two of the wives are sisters. In such families, the
children tend to continue to call their mother's sister "mother."

*177 The replacement of broad generational bonds with more circum-
601 scribed trans-generational bonds is evident in the separate designation
561 of the individuals in the first ascending generation. It is also apparent in ego's generation. For the male ego, mother's sister's son, whether or not he is a half sibling, is placed among the three middle generations depending on his age relative to ego. If this person is older, even a year or so, he is designated mother's brother.[9] If he is about the same age or a little younger, he is called little brother. An individual in this relationship who is a year or more younger is called nephew. The kinship categories for independent and dependent partners in the relationship between ego and mother's sister's son are provided. Previously, associational ties existed

*177 601 561 between these two categories of individuals, and they were socially identical as siblings. Also, there is more evidence for the separation of siblings from parallel cousins. The female ego tends to reserve the term k'amicho to designate younger parallel cousins of both sexes. This term is rarely used to designate siblings. Also, a few men reserve the term yopoko to refer exclusively to their older sister. A fuller differentiation of siblings and parallel cousins has not yet emerged.

*177 601 This separation of the kinship identities of members of the nuclear family from collateral kin is also evident in the first descending generation. For both male and female egos, the term yemuje tends to be reserved for actual daughter; the term yemueale, for other categorical daughters. For male ego, the term emülü tends to be reserved for actual son; po'chole, for categorical sons. For female ego, the term ë'më tends to be used for actual son; po'chole, for categorical sons. In addition, both male and female egos use the term po'chole for a younger brother. This merging is an exception to the pattern of emerging separate identities for the collateral kin that were previously equated with members of the nuclear family.

*177 601 582 Marriageable categories for both males and females are now more limited. However, with the larger, centralized population, there are more individuals in these categories. Females now have marriageable partners in their generation and the first ascending generation. Those in the first descending generation have been eliminated.[10] Mother's brother and cross cousin remain marriageable and are merged in a single category. Among the three terms used by a female to

*177 designate this category, there is no clear tendency for an emerging
601 seperate kinship identity. Also, strange men continue to be in-
582 cluded in this marriageable category. As before, the males still have marriageable partners in their generation and the first descending generation. In addition to cross cousin and sister-in-law, this marriageable category extends among related individuals only to sister's and wife's brother's daughters. All women otherwise unidentified and approximately the same age as ego are also included.

There is some tendency to regard an actual sister's daughter separately from the marriageable category. A few men use the term wolije only for actual sister's daughter. Furthermore, the previous designation for a female's maternal parallel cross cousins as son and daughter has been changed. These individuals are now identical with
*177 female ego's siblings. Nevertheless, five marriages with sister's
582 daughter were recorded among the Air Strip segments of the population. These marriages are dispersed among different age levels, but the individuals involved were approximately of the same age. Every time, this was a first marriage for the woman. In three cases, this was a first marriage for the man as well. The man was older by an average of 8.6 years for all of the five cases. While a girl may enter into a conjugal union as young as seven, a male does not until he is fifteen or older. Hence, these age differences are in keeping with the general pattern. This supports the suggested purpose of this type of marriage; i.e., providing marriage partners under the circumstances contingent in a relatively small population.

Symmetrical cross-cousin marriage continues to be common. Of the

*177 seventy-seven marriages in existence among the Air Strip segment of
582 the population, twenty-two were actual cross cousin marriages. No
marriages occurred among parallel cousins. One marriage has occurred
*177
588 outside specified categories. There is one instance of a union between a man and his grandaughter. The woman grew up with her grandparents. When the grandmother died, she became the wife. They now have five children and are discriminated against in no way.

*177 Marriage now involves the interests of a much more limited group
582 of people, specifically the nuclear family and the member being added
584 through a marriage tie. No longer are there tests of any sort for the
[602] new son-in-law. Principally, this is because no longer is there a
[583] category of cooperating kinsmen to administer them. Among specific individuals, token gifts, such as a new matapi, may be made by a new, nonresident son-in-law. However, this is not formalized. Also, the
*177
606 previous display of deference between a new husband and his father-in-law and mother-in-law has been greatly abandoned.[11] Much more, the personalities of these individuals now influence the nature of their relationships.

*177 Consistently in this investigation of kinship data, causes
601 external to the system have been outlined. The kinship system and changes in it correspond to adaptive organization among the Upper Barama River Carib population. The adaptation effective for subsistence in the rain forest has been replaced by a social organization for the inclusion of external resources. Throughout this inquiry into social organization among the Upper Barama River Caribs, the material conditions, specifically the resources available, have been considered.

000 been considered.

*177 476 437 To summarize, the extent of generalized reciprocity and, conversely, immediate exchange involving labor and material goods have been used to identify resource-sharing social units among the Upper *177 621 Barama River Carib population. Over time, the resource-sharing boundaries have changed. In a position of relative isolation in the rain forest when Gillin studied them, the Upper Barama River Caribs evidence no pattern of material exchanges outside the settlement. This was a social unit fluctuating in location, size of population, as well as life span. Within settlements, further organization consisted of clearings and, within clearings, households. People resident in settlements tended to consist of a category of cooperating kinsmen. Among them, the exchange of labor and the sharing of tools and food was patterned on a generalized basis. Since the introduction of wage employment and other regional markets, the population has become centralized by participation in common regional networks of *177 592 437 exchange. Settlements have tended to become more permanent and larger in population size. Households have tended to become separated from ties of generalized reciprocity with a wider kinship group. Exchanges directly between Carib households are now conducted with money or *177 621 other immediate payments. However, there are no permanent stores of resources to support corporate organization or other institutional elaboration, and this population has been politically organized only to the extent that a local administrative structure has been imposed.

*177 602 Among the Upper Barama River Caribs, aspects of the regional networks of exchange have promoted certain kinship ties and dissolved others.

000 *177 [489] [30] [49] *177 464 others. That is, this population is encapsulated relative to access to regional transportation and communication and control of market opportunities. Limited regional markets including employment have been conveyed into the Upper Barama River area by non-Carib middlemen. As a consequence, a limited number of Caribs have become [571) clients to middlemen patrons and have brought their sons or sons-in-law into an employment opportunity. In this manner, extended house- *177 596 hold organization in which a son or son-in-law and his family remain with the parents is one pattern of organization that is evident among the Upper Barama River Caribs.

*177 527 182 There is one further note to make on the social organization of the Upper Barama River Caribs. That is, the instrumentality of the one type of local communication event has changed relative to shifts in the boundaries of the resource-sharing social unit. The cassiri spree provides for the institutionalized interaction of individuals through songs, dances, and other encounters. As Gillin observed it (1936:60-70,137-139), a spree was held by one man but participation tended to include the residents of one settlement, although strangers were usually welcomed. A program of activities was continued for several days until the supply of cassiri was exhausted. During this time individuals engaged in a formalized manner related in different ways to the people they saw almost continually. In addition, the event itself expressed the solidarity of the people participating. Less than total participation of the residents in a settlement was indicative of the strained relationships which were a prelude to the relocation of households.

*177 527 182 During employment in mining, a spree lasted only a number of hours. Participation clearly crosscut resource-sharing social units. The spree served to bring together people whose daily activities tended to provide no other basis for contact. The *cassiri* spree was also used to gain job reinstatement in inducing other Carib miners to neglect work schedules. At Baramita Air Strip, *cassiri* sprees continue to bring a large number of people together in a party atmosphere for only a number of hours. It has been held to distribute food and clear up any residue of obligations for participants in a *kaiyap* or group work day. Also, the Amerindian Captain has [622] sponsored sprees which include all the residents of the Air Strip and coincide with national Guyanese holidays. At other times, sprees are held among neighbors. Time depth is achieved only when a number of people hold sprees more or less in succession, which might happen during a weekend. Participation is by verbal invitation and the participants at each spree vary. In the different organizational contexts, the *cassiri* spree has been used as a communication event for different expressions and to convey different purposes.

*177 184 594 Reports on other Carib populations affected by regional economies are available. The villagers of Cachama and Mamo in Venezuela (Schwerin 1966) and the Maroni River Caribs of Surinam (Kloos 1971) tend to be primarily organized in nuclear families. The Caribs of Cachama and the Maroni River reserve some economic ties within a larger kinship group, usually the nuclear families of parents and adult offspring, especially daughters. Families in such a group tend to live near each other. Basically, these Caribs remain

*177 subsistence agriculturalists but release labor for market endeavors
184 involving local commodities. The Caribs of Mamo in Venezuela are
594 singularly organized as nuclear families. These people have had
*177 opportunities for direct employment in industry. In no case are
101 these other Carib populations as impacted as the Upper Barama River
184 Carib population relative to access to regional transportation and
communication and dependent on specific middlement to convey the
*177 limited market opportunities. Markets for employment and local
592 commodities have involved the Upper Barama River Caribs. However,
the conditions under which market opportunities have been available
have tended to separate households as well as extend them in specific
cases in which client employment relationships with a middleman
patron have been generated.

In conclusion, local and external resources in the context of their availability and the extent of their convertibility, or lack of it, into other forms have combined to produce the economic environment of the Upper Barama River Carib population. Clearly, aspects of social organization and changes in them, as detailed, are related to resource opportunities. With the transience of local as well as external resources, the unit of social organization which has persisted is the household.

NOTES

000

[1] Gillin does not report the exact relationship between Miller and John Cook's wife.

[273]

[2] *Cassiri* is fermented from cassava. Gillin reports two recipes (1936:61). Currently, only one is commonly used. Cassava meal is baked into dark brown cakes. Water with grated red potato for color is placed in the *kanu* - a hollow cedar log with carved handles at each end. The women with teeth then crumble the cakes with their hands into a mash in the *kanu*. All the while they chew mouthfuls of this mash and return it to the *kanu*. The contents of the *kanu* are then allowed to set for about three days before the drink is ripe. Singing and dancing and general conviviality take place during a *cassiri* spree until the supply of *cassiri* is exhausted. Attendance is by invitation, but strangers are usually welcomed.

[3] This contrasts to the nature of the work itself such as rubber collecting among the Mundurucu and fur trading among the Algonkian which resulted in nuclear family organization (Murphy and Steward 1956). Rubber trees and fur-bearing animals tend to occur in defined territories best exploited by single, mobile nuclear families.

[4] During the field work conducted in 1970-71, there occurred considerable innovation and experimentation with house types at the Air Strip and in the satellite settlements. In some cases, a wall was added on one or more sides of the traditional house structure, which is posts supporting a thatched roof. These walls were made of slats, boards, logs, woven mats or a variety of these materials. Also, some houses were built on tall poles which allowed a living floor to be constructed as much as one story above ground.

[5] Carib crafts have diminished in variety and skill since trade goods have been available. This is markedly apparent with regard to pottery. There are few potters and few pots. Commercial cookware of aluminum or enamel is used at the Air Strip and the satellite settlements for cooking and storage purposes.

[323]

The diversity of clay pots reported by Gillin (1936:48-49) has been reduced to three types. A combination of shape and size elements distinguish the *tuma etna*, *tukuwali*, and *tuluwa*. The *tuma etna* or sauce pot is any small, free standing pot. These are between six and ten inches in dimension and include a variety of shapes. The *tukuwali* and *tuluwa* are not free standing. Rather, their base is small and somewhat pointed making it necessary for these pots to be supported by being partially sunk in the ground. They may be rimmed or rimless. The *tuluwa* has a broad mouth and is used for boiling sweet *cassiri*. The *tukuwali* has a constricted mouth and is primarily for storage. Sizes vary considerably. The largest are about three feet by three feet and the smallest are about eight inches in all dimensions.

[114]
[241]

[6] In his examination of the diagnostic features of slash-and-burn

000

[114] [241] cultivation, Conklin (1954:142) has also pointed out that the efficiency can only be measured by yield per unit of labor rather than per unit of area which is possible with some other types of agrarian systems.

[658] [871] [7]The government school at Baramita Air Strip maintains an enrollment of about 100 of which about fifty students are in daily attendance.

[114] [8]Lave's (1966) and Riviere's (1966) arguments concerning the implications of marriage with sister's daughter in the structural integrity of a kinship system do not appear to apply in this case.

[9]From among the three terms for mother's brother, yaoko is exclusively used.

[10]Terminology from the male speaking system has been adopted for the new designation of father's sister's son's children.

[601] [11]Carib kinship terms still reflect the acknowledgement of deference among immediate in-laws. Translated literally, a man calls his father-in-law, "my child's grandfather." He calls his mother-in-law, "my child's grandmother." Likewise, both men and women call their son-in-law, "my grandchild's father"; a daughter-in-law, "my grandchild's mother." As yet, no specific terms exist with which a woman designates a mother-in-law or father-in-law. Previously, she was not likely to meet these individuals.

VI

CONCLUSIONS

*177 In the previous chapters, attention has been given to the corre-
105 lations over time of resources available for exploitation and the
[121] size and organization of a single population. The economic and
reproductive adjustments of the Upper Barama River Caribs have been
investigated. In their specific pathway from relative isolation in
the rain forest into a national political economy, social organization
and population size have been related to resource development. As
[438] this population has been centralized by common participation in net-
[592] works of regional exchange, the household has emerged as the resource-
[476] sharing social unit. Ties of general reciprocity with a wider kin-
[602] ship group have tended to be dissolved. Another type of organization
[571] which has emerged to consolidate advantage in the regional economy
[657] has been client relationships with a middleman patron. In addition,
external sources of food and clothing and medical care have tended to
override relationships between population size and adaptation to local
[161] rain forest resources. An accelerating rate of population growth is
currently evident among the Upper Barama River Caribs. In short,
this population has evidenced changes in organization and increased
population size under the conditions of its national integration.

241 Adapting to the rain forest, the Upper Barama River Carib popu-
182 lation participated in the direct organism-to-organism cycling of
105

241 energy characteristic of this environment. Slash-and-burn cultivation
182 is a replication of the rain forest, and in this manner, human groups
105 do not extend their niche through agriculture but rather integrate
food production with the extant biotic community (Geertz 1963:15-28;
361 Meggers 1971:19-21). The productivity of cultivation, hunting, fish-
105 ing, and gathering were the essential components of subsistence, and
[182] the Upper Barama River Caribs, limited in population size, shifted in
location as a response to these endeavors. As a consequence of this
semi-nomadic adaptation, the largest social unit was the settlement,
within which the sharing of resources and the exchange of labor
were patterned.

*177 In contrast, wage labor and other regional markets and modern
105 medical technology have combined to expand the niche of the Upper
161 Barama River Carib population. In turn, population size has expanded.
[464] At the time of Gillin's (1936) study in 1932-33, the Upper Barama
[438] River Caribs numbered about 200 and were located in dispersed settle-
[657] ments along the river corridor. There are now more than 550 Caribs
nucleated around Baramita Air Strip. This increase in size has been
achieved despite losses due to migration. The current rate of in-
crease is about eight percent annually. Coupled with a low death
rate, this is indicative of the potential for further increases
among this population. Using population size as the coefficient of
adaptation as proposed by Alland (1967, 1970), clearly a successful
adjustment has been made to the new resources available over the
short term generation-to-generation time span.

*177 In this context, any projections for either the future of the
43

#177 43 Upper Barama River Carib population or the perpetuation of the Baramita Air Strip community must include a consideration of the regional economy and its social organization, to which local behavioral strategies and population size are related. Clearly, the Upper Barama River Caribs are now dependent on the external resources made available to them through highly personalized channels. A curtailment in regional exchanges, such as the closing of the gold mine, results in hardship for this population. Similarly, it may be expected that the development of opportunities for regional exchange, especially direct access to regional markets and some measure of local control in regional exchange, will result in further organisational strategies among the Upper Barama River Caribs in their integration into the national political economy. Of course, this development would necessarily be accompanied by publicly available transportation and communication which are the life lines along which regional resource exchanges are conveyed. Also, changes in the apportionment of local resources, such as the implementation of a system of land tenure, would further contribute to a basis for differentiation among the local population in the context of the national political economy.

121 This study has been conducted from the perspective of the regional influences upon a local population. The manner in which this inquiry has been informed by the orientations of population ecology and culture change can be phrased to facilitate comparative study. First, a local population is the unit which remains constant, In restudies conducted and proposed on changing societies (Redfield 1950; Lewis

1951; Firth 1959; Vogt 1960) the adaptation of a local population has not been given a clear emphasis. In this case, a local population has been the unit for inquiry as in population ecology studies (Vayda and Rappaport 1968). The Upper Barama River Carib population has been investigated for changes over time in aspects of its behavioral patterns which have affected its size, density, distribution, and organization relative to resources in the natural and social environment. Changes in the nature and availability of resources, plus the extent of their convertibility, are important considerations. It is also important to establish the continuity of the local population under consideration. In addition to examining the role of the sexes, the family, and other social units in productive activities, the outlining of the boundaries of resource sharing and the regulation of direct exchanges on the local and regional bases permits the identification of the common material exchanges which define a local population (Rappaport 1969:184).

In studying a population's relationship to its environment, Steward (1938:2) and Netting (1968:16) have emphasized the importance of productive activities with little explicit attention to patterns of resource sharing and more direct exchange. Fittingly, they were concerned with synchronic study of populations with essentially local adaptations. Sahlins (1965) has investigated "generalized reciprocity" as a cross-cultural regularity among hunting and gathering populations, and Lee (1969) has underscored the significance of sharing in human energy relations in his analysis of food consumption among the !Kung Bushman. These studies concern aspects of resource sharing

121 among populations with subsistence economies in local environments. In contrast, Rappaport (1969:187) has suggested the importance of the regulation of material exchanges on a regional basis, but has not conducted substantive inquiry. The attempt here has been to combine the analyses of productive activities and patterns of sharing and direct exchange as a small, relatively isolated population has been integrated into the national political economy.

A first step in such an investigation concerns the nature of the local environment and the technological and organizational manner in which local resources are derived and the uses to which they are put. Included in these uses may be productivity for regional markets, and therein lie the difficulties, both empirical and theoretical, of separating a local ecosystem from a regional system of exchange, as Rappaport has suggested for more isolated populations (1968:224-229). In contrast, Bennett (1969:12) has emphasized the complexity of a population's adaptation which includes external resources. Clearly, in the vast majority of the local populations that can be identified in today's world, local productivity and energy budgets are geared to some extent to encounters with constantly changing national and international market structures. In other words, the degree of articulation of local economies and regional economies may change cyclically as well as more irregularly. The parameters of the economic environment are unstable, and access to information and transportation become vital in the strategies to gain advantage in these changing market structures.

121 Thus, time, specifically changes through time, becomes central in identifying a local population's niche in national and international political economies. A concern with time is prominent in recent ethnological studies with an ecological orientation, including those of Bennett (1969), Meggers (1971), and Hanks (1972), and in this inquiry as well. The ethnographic present and assumptions such as equilibrium social systems are lost as theoretical tools. As a consequence, the interrelationships among resources, population size, and exploitative organization, and changes among these - common concerns for ecological inquiry - can only be established in situational contexts. With shifting environmental parameters, feedback effects are not always apparent.

Accordingly, the ecological attention to the interrelationships of elements in systems has been shifted to the adaptive strategies of local populations and categories of people within them. This is especially apparent in the studies of Bennett (1969) and Hanks (1972). The concern is adaptive postures relative to local and regional resources, as it is in this inquiry. The emphasis is on patterns of exploitative behavior, and the persistence of elements of social structure, including corporate groups, becomes operative as they define and consolidate advantage in the fluctuating market structure.

In some cases, such as inquiry has revealed among the Upper Barama River Caribs, the fluid nature of local resources, which is typical in a rain forest environment, in combination with highly fluctuating, independently occurring external resources, may provide no basis for the elaborations of social structure. In this case, 121 technology, although modern substitutions are made, has not brought a marked change in the nature of local productive activities. Furthermore, with the very limited convertibility of resources, the Upper Barama River Caribs continue to relate to all resources in the manner in which they afford subsistence. What has changed is the organization of the population relative to the availability of external resources. Specifically, client relationships have been established with external agents and the household has emerged as the resource-sharing social unit as the Upper Barama River Caribs have been centralized by common participation in regional market networks. Thus, organizational strategies are central in the investigation of this population's changing adaptations.

One point remains for consideration. Using populations as the units for inquiry obviously presumes that local populations, localized in villages, towns, around service centers, or otherwise identifiable, remain as both empirical and theoretical references. The utility of this ecologically derived concept may also dissolve with increased mobility and the impersonalization of entrance into national and international industrial market structures. In such an event, the relevance of population size as a measure of adaptation in specific environmental situations will also be lost as a theoretical tool. As it is with a generation-to-generation perspective, little can be determined regarding increases in population size in relation to the exhaustion of resources. Nevertheless, the degradation of the environment remains the concomitant of reproductive success reflected in increased population size (Alland 1967, 1970).

121 It would appear that studies of the relationships between population
182 size and competition for local and external resources in the
*177 process of modernization, as in the case of the Upper Barama River
Caribs, are appropriate in many similar situations throughout the
[131] world. In the Guyanas, which includes the area bounded by the Rio
Negro, Amazon and Orinoco rivers, local Amerindian populations are
subject to a variety of geographical environments and regional influences.
[133] The geographical areas include coastal, inland mountain-savannah,
and interfluvial rain forest environments (Gillin 1948:800).
Nevertheless, each area is not monolithic regarding the regional influences
of national agencies, missionary groups, and entrepreneural
agents which also generate adaptive strategies on the part of local
populations.

*177 For example, the interfluvial area in which the Upper Barama
182 River Caribs are found is also inhabited by other Amerindian populations,
171 including Caribs, with different adaptations. Along the
184 border between Venezuela and Brazil, the Yanomamö (Chagnon 1968)
[101] adapt essentially to the rain forest and engage in warfare, characterized
by its attrition, which contributes to the dispersion and
limitation of this population. Although they rely on the European
introduced plantain as the staple crop, they are largely unaffected
by direct external influences. By contrast, the Trio (Rivière 1969),
a Carib speaking group, have been recently nucleated around mission
stations, a Roman Catholic mission in Brazil and two Protestant
missions in Surinam. Carib groups outside the interfluvial area
also add contrast to the adaptations of the Upper Barama River Caribs.

2. Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

*177 182 184 121 More modernized groups include the Caribs of the Maroni River in Surinam (Kloos 1971) and those in western Venezuela (Schwerin 1966) who are differently affected by the economies of the nations of which they are a part. The diversity of local environments and regional influences invite comparative inquiry concerning economic and reproductive adjustments of local populations. Such inquiries among the Amerindians of the Guyanas remain tied to the realities of the developing world and concern the initial stages of the integration of local populations into national political economies.

2: Adams E-4,5 (1970-1971) 1973 SR9 Carib SR9
(1932-1971) Barama River

REFERENCES CITED

113 Alland, Alexander, Jr.
1967 Evolution and Human Behavior. New York: Natural History Press.
1970 Adaptation in Cultural Evolution: An Approach to Medical Anthropology. New York: Columbia University Press.

Alland, Alexander, Jr., J. B. Birdsell, E. Deevey, Jr., G. L. Isaac, C. M. Turnbull, S. L. Washburn, B. J. Williams, and J. Woodburn
1968 Population Control Factors: Infanticide, Disease, Nutrition, and Food Supply. In Man the Hunter. Richard B. Lee and Irven DeVore, eds. Chicago: Aldine. pp. 243-245.

Amerindian Lands Commission
1969 Report by the Amerindian Lands Commission. Georgetown.

Banks, E. P.
1956 A Carib Village in Dominica. Social and Economic Studies 5:74-86.

Bennett, John W.
1969 Northern Plainsmen: Adaptive Strategy and Agrarian Life. Chicago: Aldine.

Birdsell, J. B.
1953 Some Environmental and Cultural Factors Influencing the Structuring of Australian Aboriginal Populations. American Naturalist 87:169-207.

Bishop, D. W.
1941 The Geology and Geography of the Towakaima Region, Upper Barama Valley, North West District. Georgetown: Geological Survey of British Guiana. Bulletin No. 16 - 1937-1938.

Chagnon, Napoleon A.
1968 Yąnomamö: The Fierce People. New York: Holt, Rinehart & Winston.

Conklin, Harold C.
1954 An Ethnoecological Approach to Shifting Agriculture. Transactions of the New York Academy of Sciences(2nd ser.)17:133-142.

Firth, Raymond
1959 Social Change in Tikopia. London: George Allen and Unwin.

113 Geertz, Clifford
1963 Agricultural Involution: The Process of Ecological Change in Indonesia. Berkeley: University of California Press.

Gillin, John
1934 Crime and Punishment Among the Barama River Caribs of British Guiana. American Anthropologist 36:331-344.
1936 The Barama River Caribs of British Guiana. Papers of the Peabody Museum 14.
1948 Tribes of the Guianas and the Left Amazon Tributaries. In Handbook of South American Indians. J. H. Steward, ed. Smithsonian Institution, Bureau of American Ethnology Bulletin 143, 3:799-860.

Hanks, Lucien M.
1972 Rice and Man: Agricultural Ecology in Southeast Asia. Chicago: Aldine.

Harris, Marvin
1968 The Rise of Anthropological Theory: A History of Theories of Culture. New York: Thomas Y. Crowell Co.

Hinshaw, Robert, P. Pyeatt, and J. Habicht
1972 Environmental Effects on Child-spacing and Population Increase in Highland Guatemala. Current Anthropology 13:216-230.

King, K. F. S.
1968 Land and People in Guyana. University of Oxford: Commonwealth Forestry Institute Paper 39.

Kloos, Peter
1971 The Maroni River Caribs of Surinam. Assen: Van Gorcum & Co.

Lave, Jean Carter
1966 A Formal Analysis of Preferential Marriage with the Sister's Daughter. Man (n.s.) 1:185-200.

Lee, Richard B.
1969 !Kung Bushman Subsistence: An Input-Output Analysis. In Ecological Essays: Proceedings of the Conference on Cultural Ecology, National Museum of Canada, 1966. David Damas, ed. Ottawa: National Museum of Canada Bulletin 230. pp. 73-94.

Leeds, A.
1965 Reindeer Herding and Chukchi Social Institutions. In Man, Culture, and Animals: The Role of Animals in Human Ecological Adjustments. A. Leeds and A. Vayda, eds. Washington: American Association for the Advancement of Science Publication 78. pp. 87-128.

113

Lewis, Oscar
1951 Life in a Mexican Village: Tepoztlan Restudied. Urbana: University of Illinois Press.

Lorimer, Frank, ed.
1954 Culture and Human Fertility: A Study of the Relation of Cultural Conditions to Fertility in Nonindustrial and Traditional Societies. Paris: UNESCO.

Murphy, Robert and J. Steward
1955 Tappers and Trappers: Parallel Process in Acculturation. Economic Development and Cultural Change 4:335-355.

Meggers, Betty J.
1971 Amazonia: Man and Culture in a Counterfeit Paradise. Chicago: Aldine.

Nag, Moni
1962 Factors Affecting Human Fertility in Nonindustrial Societies: A Cross-Cultural Study. Yale University Publications in Anthropology 66. New Haven: Yale University Press.

Netting, Robert McC.
1968 Hill Farmers of Nigeria: Cultural Ecology of the Kofyar of the Jos Plateau. Seattle: University of Washington Press.

Peberty, P. Storer
1948 Report of a Survey of Amerindian Affairs in the Remote Interior. London: Colonial Development and Welfare Scheme D. 246.

Polgar, Steven
1972 Population History and Population Policies from an Anthropological Perspective. Current Anthropology 13:216-230.

Population Census Division of the Central Statistical Office
British Guiana: Population Census 1960. Vol. I-III. Port of Spain, Trinidad.

Rappaport, Roy A.
1968 Pigs for the Ancestors: Ritual in the Ecology of a New Guinea People. New Haven: Yale University Press.
1969 Some Suggestions Concerning Concept and Method in Ecological Anthropology. In Ecological Essays: Proceedings of the Conference on Cultural Ecology, National Museum of Canada, 1966. David Damas, ed. Ottawa: National Museum of Canada Bulletin 230:184-188.

Redfield, Robert
1950 A Village That Chose Progress, Chan Kom Revisited. Chicago: University of Chicago Press.

113 Rivière, Peter
1966 A Note on Marriage with the Sister's Daughter. Man (n.s.) 1:550-556.
1969 Marriage Among the Trio: A Principle of Social Organization. Oxford: Clarendon Press.

Roth, Walter E.
1915 An Inquiry into the Animism and Folklore of the Guiana Indians. Washington: 30th Annual Report of the Bureau of American Ethnology, 1908-1909.
1924 An Introductory Study of the Arts, Crafts, and Customs of the Guiana Indians. Washington: 38th Annual Report of the American Bureau of Ethnology, 1916-17.

Rouse, Irving
1948 The Carib. In Handbook of South American Indians. J. H. Steward, ed. Smithsonian Institution, Bureau of American Ethnology Bulletin 143, 4:547-565.

Sahlins, Marshal D.
1965 On the Sociology of Primitive Exchange. In The Relevance of Models for Social Anthropology. A.S.A. Monographs 1. London: Tavistock. pp. 139-236.

Schomburgk, Richard
1848 Travels in British Guiana During the Years 1840-1844. Leipzig: J. J. Weber. (Translated by W. E. Roth, 1922-23)

Schwerin, Karl H.
1966 Oil and Steel: Process of Karinya Culture Change in Response to Industrial Development. Latin American Studies, Vol. 4. Los Angeles: University of California Latin American Center.

Smith, Douglas
1969 The Origins of Porknocking in Guyana. Centre for Developing-Area Studies, Occasional Paper Series, No. 5. Montreal: McGill University. pp. 81-92.

Solien de González, Nancy
1964 Lactation and Pregnancy: A Hypothesis. American Anthropologist 66:873-878.

Spiegelman, Mortimer
1968 Introduction to Demography. Cambridge: Harvard University Press.

Steward, Julian H.
1938 Basin-Plateau Aboriginal Sociopolitical Groups. Washington: Bureau of American Ethnology Bulletin 120.

113 Stott, D. H.
1962 Cultural and Natural Checks on Population-Growth. In Culture and the Evolution of Man. M. F. Ashley Montagu, ed. New York: Oxford University Press. pp. 355-376.

Taylor, Douglas
1938 The Caribs of Dominica. Washington: Bureau of American Ethnology Bulletin 119:103-189.
1946 Kinship and Social Structure of the Island Carib. Southwestern Journal of Anthropology 2:180-212.
1953 A Note on Marriage and Kinship among the Island Carib. Man 53:117-119.

Vayda, Andrew
1961 Expansion and Warfare among Swidden Agriculturalists. American Anthropologist 63:346-358.

Vayda, Andrew P. and R. A. Rappaport
1968 Ecology: Cultural and Non-cultural. In Introduction to Cultural Anthropology. James A. Clifton, ed. Boston: Houghton Mifflin. pp. 477-497.

Vogt, E. Z.
1960 On the Concepts of Structure and Process in Cultural Anthropology. American Anthropologist 62:18-33.

Wagley, Charles
1951 Cultural Influences on Population: A Comparison of Two Tupi Tribes. Revista do Museu Paulista (n.s.) 5:95-104.

177

[For information on various aspects of Carib acculturation and culture contacts. See category 116, pp. ii, 1-3, 5, 10-13, 16-34, 38, 40-41, 43, 46-48, 50-55, 57-58, 60-61, 65-69, 71-72, 74, 76-96, 98, 103-123, 126-129, 131-139, 142-144, and 149-150.]